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Lawrence Livermore National Laboratory (LLNL) Experimental Test Site (Site 300) Compliance Monitoring Program Report for the Closed Pit 1 Landfill, Fourth Quarter Report for 2019

A. M. Chan

February 28, 2020

This work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.



Lawrence Livermore National Laboratory

February 27, 2020

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Subject: *Lawrence Livermore National Laboratory (LLNL) Experimental Test Site (Site 300)
Compliance Monitoring Report for Waste Discharge Requirements (WDR) Order No. R5-
2008-0148, Second Semester/Annual 2019 Report*

Dear Ms. Phiri:

Please find enclosed the *LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148, Second Semester/Annual 2019 Report*. This report meets the semi-annual/annual reporting requirements and monitoring summary required in the WDR Monitoring and Reporting Program (MRP) first adopted in September 2008, and revised effective December 1, 2009. The revised MRP terms and conditions have been implemented in this report. The monitoring networks covered under the terms and conditions of this Permit include the sewage evaporation and percolation ponds, cooling tower discharges to percolation pits and septic systems; mechanical equipment discharges to percolation pits, and other low-threat discharges located at Site 300.

Data tables, figures, and supporting information are presented in appendices and preceded by a summary and a discussion of the second semester 2019 monitoring results that pertain to compliance with WDR Order No. R5-2008-0148.

Should you have any questions regarding this report, please contact Ada Chan at (925) 422-7758.

ESH-EFA-WQ-20-17013-CQ/AC:mgp



CERTIFICATION STATEMENT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Crystal Quinly, Manager
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Enclosure: Lawrence Livermore National Laboratory (LLNL) Experimental Test Site (Site 300)
Compliance Monitoring Report for Waste Discharge Requirements (WDR) Order No.
R5-2008-0148, Second Semester/Annual 2019 Report

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LLNL-AR-411431-20-3

LLNL Experimental Test Site, Site 300 Compliance Monitoring Report for Waste Discharge Requirements (WDR) Order No. R5-2008-0148

**Second Semester/Annual Report
2019**

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Ada Chan



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- Sewer Pond Figures, Tables, and CoCs
- Field Tracking Forms
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Appendix D California Regional Water Quality Control Board Central Valley Region Monitoring and Reporting - LLNL

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Certification

I certify that the work presented in this report was performed under my supervision. To the best of my knowledge, the data contained herein are true and accurate, and the work was performed in accordance with professional standards.



 2/27/20

Date

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List of Abbreviations and Acronyms

| | |
|------------|--|
| 3CMP | Compliance Monitoring Program Site 300 ground water samples |
| 3EMG | Environmental Support & Programmatic Outreach (ESPO) Group Site 300 ground water samples |
| 3GIV | Ground water samples collected at Site 300 for site investigations |
| 3VES | Sampling method requiring three casing volumes purged using an electric submersible pump |
| BCLABS-BAK | BC Laboratories, Inc. in Bakersfield, CA |
| BOD | Biochemical oxygen demand |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CMP | Compliance Monitoring Program (conducted under CERCLA) |
| CMR | Compliance Monitoring Report (prepared under CERCLA) |
| CoC | Chain-of-custody form |
| CVRWQCB | Central Valley Regional Water Quality Control Board |
| DO | Dissolved oxygen |
| DSWP | Sewage percolation pond influent sampling location |
| DTW | Depth to (ground) water |
| EC | Electrical conductivity, or specific conductance (SC) |
| EFA | Environmental Functional Area |
| ESWP | Sampling location within sewage evaporation pond |
| GF | Grundfos pump |
| ft | Feet |
| gal | Gallons |
| gpm | Gallons per minute (measurement of discharge or flow rate) |
| GWE | Ground water elevation (above mean sea level) |
| HSU | Hydrostratigraphic unit |
| ID | Identification number |
| ISWP | Sewage evaporation pond influent sampling location |
| LAMP | Local Agency Management Program |
| LLNL | Lawrence Livermore National Laboratory |
| MCL | Maximum Contaminant Level (for drinking water) |

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List of Abbreviations and Acronyms cont.

| | |
|-----------------|---|
| mL | Milliliters |
| MPN | Most probable number |
| MRP | Monitoring and Reporting Program |
| mV | Millivolts (measure of oxidation-reduction potential) |
| NA | Not applicable |
| ND | None detected, or not detected |
| NO ₃ | Nitrate |
| NR | Analysis not required by permit at this sampling location |
| pH | Measure of the acidity or alkalinity of a solution |
| OG | Off-gassing measured by scale of 1-5, 5 being highest amount of off-gassing |
| OU | Operable Unit under CERCLA |
| OWTS | Onsite Wastewater Treatment System |
| Q | Discharge or flow rate, or number of well volumes purged (according to context) |
| QA | Quality Assurance |
| Qal | Quaternary Age alluvial deposits |
| QC | Quality control |
| Qt | Quaternary Age terrace deposits |
| RWD | Reports of Waste Discharge |
| RHWM | Radioactive and Hazardous Waste Management |
| SC | Specific conductance, or electrical conductivity (same as EC) |
| SHO | Short analytical holding time (such as samples for coliform bacteria analyses) |
| SJC | San Joaquin County |
| SJCEHD | San Joaquin County Environmental Health Department |
| VOA | Samples collected for analysis of volatile organic compounds |
| WDR | Waste Discharge Requirements (Permit) |

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Executive Summary

Under authority of the State of California and as required by the Porter-Cologne Water Quality Control Act, the Central Valley Regional Water Quality Control Board (CVRWQCB) issued Order No. R5-2008-0148 for the Experimental Test Site (Site 300), to Lawrence Livermore National Laboratory (LLNL). Monitoring and Reporting Program (MRP) Number R5-2008-0148 was adopted in September 2008, and revised effective December 1, 2009. The revised MRP terms and conditions have been implemented in this report. Under the terms of this MRP, LLNL submits semi-annual and annual monitoring reports detailing its Site 300 discharges of domestic and wastewater effluent to the sewage evaporation pond and percolation pond in the Site 300 General Services Area, and cooling tower blowdown to percolation pits and septic systems, and mechanical equipment discharges to percolation pits located throughout Site 300.

This report contains all the elements required by Waste Discharge Requirement (WDR) Order R5-2008-0148 for the second semester of 2019 and updates the status of equipment and facilities since the adoption of R5-2008-0148. Proper operating conditions were met for all permitted networks. Compliance certification accompanies this report, as required by the permit.

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1. Introduction

Site 300, operated by Lawrence Livermore National Security, LLC, is located in the Altamont Hills approximately 10.5 kilometers (6.5 miles) southwest of downtown Tracy, California. Required monitoring for specific Lawrence Livermore National Laboratory (LLNL) Site 300 water monitoring networks is defined in the Monitoring and Reporting Program (MRP) Order Number R5-2008-0148, which was adopted in September 2008, and revised effective December 1, 2009. The revised MRP has been implemented in this report. Applicable reporting requirements can be found in the Standard Provisions and Reporting Requirements specified in the Waste Discharge Requirements (WDR) Order R5-2008-0148 (CVRWQCB, 2008) permit and in the MRP R5-2008-0148.

This report provides a summary of water quality in designated monitoring network samples collected during the second semester of 2019 under the revised MRP R5-2008-0148 (CVRWQCB, 2008). The report details the monitoring results of the four compliance networks and presents analytical data, field summary sheets, and inspection logs associated with discharges at the networks.

Compliance monitoring networks discussed in the report include:

- Sewage evaporation and percolation ponds wastewater and ground water monitoring (**Sections 2.1 through 2.5**).
- Cooling tower blowdown discharge monitoring and percolation pit inspections (**Sections 3.1 through 3.4**).
- Mechanical equipment effluent discharge monitoring and percolation pit inspections (**Sections 4.1 through 4.4**).
- Septic systems and construction updates (**Sections 5.1 through 5.3**)

BC Laboratories, Inc. and Alpha Labs provided off-site analytical support for the monitoring networks.

This report summarizes the activities associated with these monitoring networks including: tabular summaries or data plots for all data for at least the last five years; a ground water elevation contour map with well locations; identification of any data gaps or deficiencies; and a discussion of any changes to the monitoring program.

Figure 1 shows the locations of the wastewater systems permitted under WDR R5-2008-0148, including mechanical equipment percolation pits and the sewage oxidation and percolation ponds (sewage ponds) located in the General Services Area. None of the permitted mechanical equipment percolation pits overflowed during this monitoring period, however there was standing water observed within one of the Christy boxes at Building 827C. In addition, there was standing water observed at the cooling tower percolation pits at Buildings 827A and 851. There were no detected chemical impacts to ground water beneath and adjacent to the sewage ponds. Discharges from cooling towers and mechanical equipment were consistent with historic information provided in the previous Reports of Waste Discharge (RWD).

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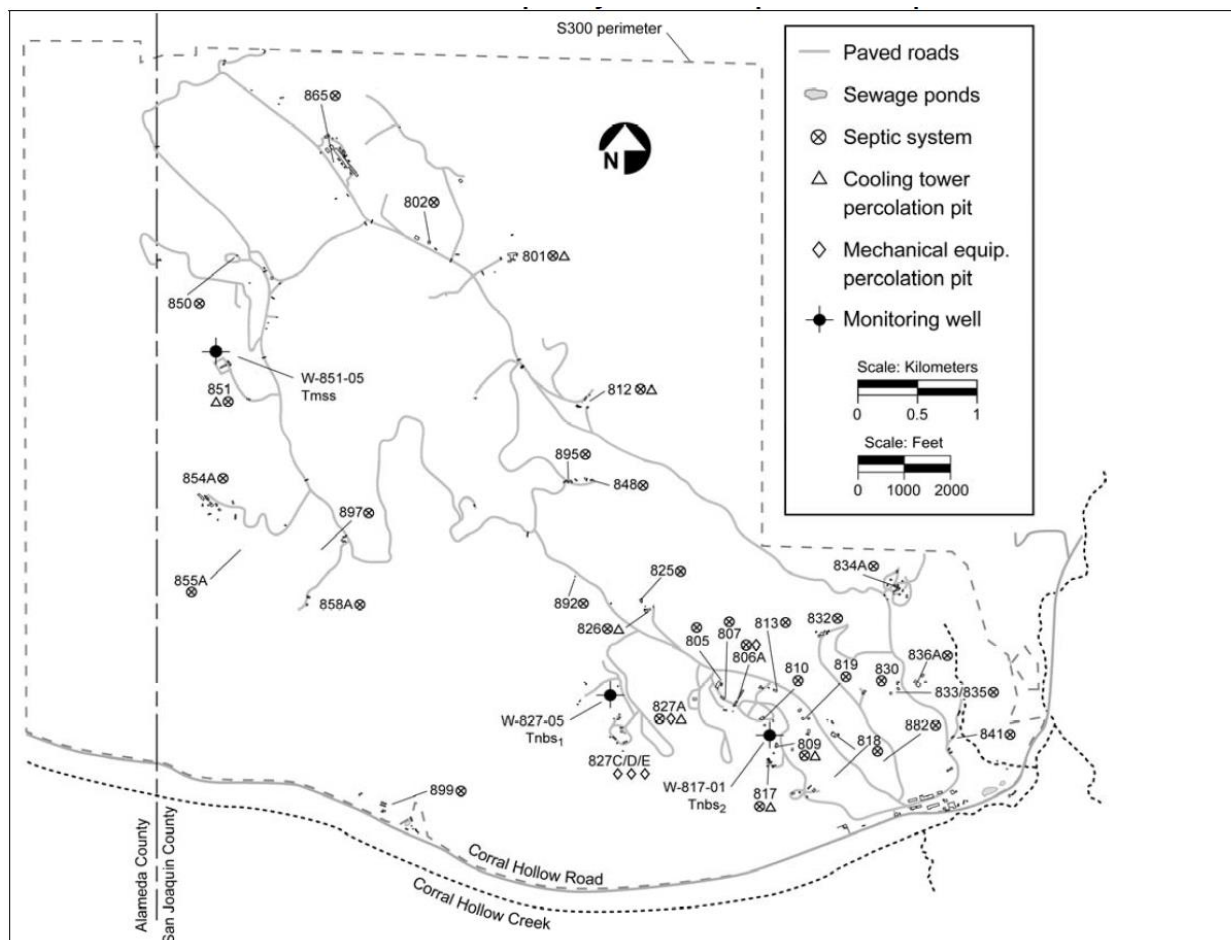


Figure 1. Locations of Site 300 facilities with septic systems and percolation pits.

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2. Sewage Evaporation and Percolation Ponds

2.1. Effluent and Pond Compliance Monitoring Program

MRP R5-2008-0148 requires semi-annual and annual sampling and chemical analysis of wastewater flowing into the sewage evaporation pond (sewage pond). Grab samples are collected from a location west of the sewage pond (see sampling location ISWP in **Appendix A, Figure A-1** showing the Site 300 sewage evaporation and percolation ponds and ground water and wastewater compliance monitoring locations). Location ISWP is a port providing access to a section of pipe through which all liquid waste streams flow prior to entering the sewage pond. The samples are analyzed for specific conductance (SC, or electrical conductivity), pH, and biochemical oxygen demand (BOD).

MRP R5-2008-0148 also requires sampling and analysis of wastewater within the sewage pond and wastewater discharging into the sewage percolation pond. Semi-annual wastewater samples are collected by grab sampling from a dock at the eastern end of the sewage pond (sampling location ESWP) and analyzed for SC, pH, metals, dissolved oxygen (DO), BOD, and total and fecal coliform. Any discharge from the sewage pond to the sewage percolation pond (sampling location DSWP) is grab-sampled and analyzed for the same constituents. Permit WDR R5-2008-0148 requires LLNL to operate the sewage pond with adequate freeboard to minimize the frequency of discharges to the sewage percolation pond.

Leak detection and compliance monitoring at the sewage evaporation and percolation ponds is accomplished by monitoring the shallow ground water beneath and adjacent to the ponds. Ground water monitoring includes semi-annual sampling during the first and second semesters when ground water elevations are at their highest and lowest, respectively, and analysis of the collected samples for SC, pH, total and fecal coliform, chloride, nitrate, sulfate, total dissolved solids, sodium, and metals. In addition, ground water elevations are routinely recorded and potentiometric surface contour maps are created (**Appendix A, Figure A-2**). A map showing the locations of the monitor wells and ponds (**Appendix A, Figure A-1**) and tables of monitor well specifications and groundwater elevations for the second semester of 2019 for each well are provided (**Appendix A, Tables A-1 and A-2**).

In addition to normal operation of the sewage evaporation pond, there are also discharges to it associated with the beneficial use of discharged water. These discharges are in preparation for potable water delivery to Site 300 from the San Francisco Public Utility District Hetch-Hetchy water system. During these operations, Hetch-Hetchy water is flushed periodically to maintain sanitary conditions in the potable water line. When a discharge to the sewage evaporation pond is scheduled, the chlorinated water in the Hetch-Hetchy line is analyzed for chlorine. When the water reaches a chlorine residual value at or below 1.0 mg/L, the water is ready to flush. When flushing, a 4-inch hose is used from the discharge of the Hetch-Hetchy line at the LLNL valve box to the sewage pond. Before the water is flushed, the residual chlorine concentration generally decreases to between 0.2 and 1.0 mg/L. The pH is checked and logged at the source.

During the second semester of 2019, no discharge of evaporation-loss makeup water to the sewage pond occurred and there was no water system pipeline flush. Details of first semester discharges

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are shown on **Table 1**, below, which provides the volume of water discharged, chlorine residual concentration, and pH of the discharged water. The pH was inadvertently not measured during the first semester flush and verbal communication was made with the LLNL Operations and Business supervisor responsible for these measurements. The table will be added to the operations manual to ensure that pH is measured prior to flushing events.

Table 1. Summary of water system pipeline flushing and pressure testing discharges at Site 300 during 2019.

| Discharge Period | Volume Discharged (gallons) | Chlorine Residual (mg/L) | pH (units) | Comment |
|-------------------------|------------------------------------|---------------------------------|-------------------|--|
| First Semester | 70,700 | <1 | - | 4 separate flushes were performed with an average of 17,675 gallons each |
| Second Semester | - | - | - | - |

In August 2018, a Seametrics magmeter flow meter was installed on the 8-inch cast iron sewer line that discharges to the sewage evaporation pond to monitor the influent flow. The flow meter was installed outside the fence at the southwest corner of the sewer pond. The June 2019 flow measurements were different than anticipated. A consultation with the manufacturer determined that the flow meter is not designed for the intermittent low flow. Therefore, flow meter and pipe design upgrades are being discussed with the Mechanical Utilities Division.

During the beginning of December 2019, the cable for the newly installed fourth aerator snapped due to material incompatibility with the chemistry of the sewage pond wastewater. The cables hold the aerator in place at the pond. On January 17, 2020, the snapped cable was replaced, and the aerator was back online. Previously, the ball float depth measurement tool located at the far east side of the sewage pond was constructed to ensure accurate depth in inches. In the future, to improve ease of use, work will be performed to display depth level at multiple angles.

As noted on the inspection field sheet, due to an inoperable pump, ground water sample collection was not performed at well W-7DS. The well has been on the well tracking list for repair since March 26, 2019. Pump replacement will begin during the first quarter of 2020.

2.2. Sewage Pond Wastewater Sampling and Analysis

Less than 12 hours before sewage pond wastewater sampling and field measurements, the DO, SC, and pH meters are calibrated. The DO, SC, pH, and temperature of each sample are measured and written on the field tracking forms (field logs) when the grab samples from ISWP, ESWP, and DSWP are collected. For each analytical laboratory to which samples are submitted, chain-of-custody (CoC) forms are filled out appropriately and signed by the sampler. The CoC numbers are also written on the field logs. Appropriate EPA-approved analytical methods (U.S. Environmental Protection Agency, 2005) or Standard Methods (Clesceri et al., 1998) are used.

The samples required under MRP R5-2008-0148 for locations ISWP and ESWP were collected on April 30, 2019. These samples, and all samples with results presented in this report, were collected, analyzed, and the data entered into the LLNL Environmental Functional Area (EFA) database according to a complete set of protocols documented in the LLNL EFA Environmental Monitoring Plan (Brunckhorst, 2019).

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2.3. Sewage Pond Wastewater Monitoring Results

Analytical results for second semester 2019 samples are summarized here as required under MRP R5-2008-0148. Monitoring data are tabulated in **Appendix A**. Coliform, anion, BOD, DO, and specific conductance data summaries are presented in **Table A-3**. A metal data summary for the ESWP location is presented in **Table A-4**. **Table A-5** provides a duplicate (QA) sampling data summary for the sewage pond's wastewater monitoring network. All results and observations were in compliance with the Permit's discharge specifications as shown in **Appendix D**. There was adequate freeboard in the sewage pond to prevent any over-topping or erosion of the pond embankment. Field tracking forms documenting operational conditions at Site 300 are provided in **Appendix A**, which also contains the field logs, including field measurements and CoCs. The original laboratory analytical result sheets are stored at LLNL and are available upon request.

- As listed in **Table A-3**, samples from the two monitoring points, 3-ESWP-OW and 3-ISWP-OW, had similar pH values of 9.6 and 9.0 respectively on September 24th. The specific conductance (SC) of the effluent sample, 3-ESWP-OW, at 8,500 $\mu\text{mhos/cm}$, was substantially higher than for the influent sample, 3-ISWP-OW, at 1,800 $\mu\text{mhos/cm}$, which may be attributed to evaporation. The SC values are reflective of typical values at the sewage pond. There is no reporting limit for SC. The BOD of the effluent and influent samples was 67 and 280 mg/L, respectively. The fecal and total coliform reporting limit is 2 most probable number (MPN)/100mL and the effluent concentration of fecal coliform was more than 1,600 MPN/100mL and the total coliform concentration was more than 1,600 MPN/100mL. The sodium concentrations from the first and second semesters were similar at 1,700 and 2,300 mg/L, respectively.
- **Table A-4** contains metals first and second semester data for the sewer pond effluent monitoring location (3-ESWP-OW). Of the metal analytes, only aluminum, barium, hexavalent chromium, lead, mercury, selenium, silver, and vanadium concentrations were below their reporting limits in the second semester samples. Concentrations of aluminum, arsenic, boron, calcium, chromium, copper, iron, magnesium, manganese, molybdenum, nickel, and potassium were lower in the first semester samples whereas concentrations of barium, selenium, and zinc were slightly higher in the first semester samples.
- **Table A-5** lists the first and second semester 2019 QA data for the wastewater monitoring network. During the second semester, a duplicate pH measurement from the influent location, 3-ISWP-OW, was the only quality assurance measurement. The routine and duplicate pH measurements were 9.0 and 8.4, respectively.

2.4. Ground Water Sampling and Analysis

Semi-annual sampling of ground water from monitor wells at the sewage evaporation and percolation ponds was performed during the second semester of 2019. The ground water samples were collected and analyzed, and results entered into the EFA database according to established protocols (Goodrich and Lorega, 2016). The monitor wells were purged and sampled during two phases (September 4th - 19th and December 9th - 11th) using prescribed methods assigned to each monitor well. Information regarding the conditions during sampling, as well as field measurements taken at the time of sampling, is found in the ground water sampling data sheets in **Appendix A**. The collected samples were transferred to an offsite analytical laboratory for analysis of the physical and chemical parameters and analytes listed in **Section 2.1**. Following the

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initial sampling events, a pre-calculated dose of chlorine was added to each well and the well was briefly pumped to circulate the chlorine throughout the water column. On the following day, wells were tested for residual chlorine and samples were collected for analysis of total and fecal coliform bacteria at an offsite analytical laboratory.

2.5. Ground Water Monitoring Results

Ground water data are presented in tables found in **Appendix A**. Sodium and anion data are tabulated in **Table A-6**. Fecal and total coliform data are listed in **Table A-7**. **Table A-8** provides a summary of physical chemical data and **Table A-9** lists metals data. QA data summaries for the monitoring well network are presented in **Table A-10**. **Appendix A, Figure A-2** contains the second semester 2019 ground water elevation contour map for the shallowest water-bearing zone (Qt-Tnsc₁ and Qal-Tnbs₁ hydrostratigraphic units [HSUs]) in the sewage evaporation and percolation ponds area. Nitrate concentrations in sewer pond ground water network monitor wells are depicted on **Appendix A, Figure A-3**.

- The sewer pond groundwater monitoring results in **Table A-6** indicate that nitrate concentrations at most wells this year were generally consistent between measurements; all were below the 45 mg/L maximum contaminant level (MCL) for nitrate in drinking water.
- As shown in **Table A-7**, fecal coliform was not detected above the reporting limit of 1.8 MPN/100mL in any first or second semester 2019 groundwater samples. Samples collected from well W-35A-04 in June and well W-7PS in September yielded total coliform results of 49 MPN/100mL. The September and December samples from well W-26R-05, contained total coliform concentrations of 32 MPN/100mL and 3.6 MPN/100mL, respectively. LLNL will continue to monitor these wells for coliform.
- As shown in **Table A-8**, phosphorus concentrations in all second semester groundwater samples were below the reporting limit of 1 mg/L. The individual well physical chemistry data ranges for the other constituents were similar to those reported last year.
- As shown in **Table A-9**, aluminum, cadmium, hexavalent chromium, iron, lead, manganese, molybdenum, silver, and vanadium were not detected above their reporting limits in all second semester 2019 samples. First semester 2019 zinc concentrations in all wells were slightly higher than second semester 2019 zinc concentrations. The other metals concentrations were generally consistent between semesters.
- As shown in **Table A-10**, the duplicate sample results for pH, specific conductance, fecal coliform, total coliform, and nitrate were either identical or very similar to the routine sample results with the exception of the December total coliform samples from well W-7ES in the duplicate sample. The total coliform duplicate sample yielded 540 MPN/100mL while the routine sample yielded 2.0 MPN/100mL. The duplicate result was flagged by the LLNL quality assurance chemist and total coliform will continue to be closely monitored.

2.6 Sewage Evaporation Pond and Percolation Pit Monthly Inspections

Observations of freeboard, color, odor, and levee condition at the sewage pond and percolation pond are made and recorded at least monthly. **Appendix A** contains several second semester 2019 data sets and other material including; field tracking forms, sewage and percolation pond

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inspection and monitoring reports, ground water sampling data forms, historical data plots for the sewage evaporation pond and percolation pond network, and ground water monitoring field observation forms for the sewage pond.

The December inspection and monitoring report indicates that there was one inch of standing water in the percolation pond. The sewage pond was green during the second semester with algae and insects observed. There were no reports of odor, solids, or scum.

3. Cooling Tower Network

3.1. Cooling Tower Compliance Monitoring Program

Monitoring requirements for cooling tower blowdown water are specified in MRP R5-2008-0148. LLNL implemented the cooling tower blowdown monitoring starting in the fourth quarter of 2008. Applicable reporting requirements are found in the Standard Provisions and Reporting Requirements of WDR R5-2008-0148 and the MRP.

Cooling towers located at Site 300 discharge either into percolation pits or into septic systems. Currently, there are five operating cooling towers. The cooling tower locations are identified on **Appendix B, Figure B-1**. The cooling towers located at Buildings 801, 817, 826, 827A, and 851 all discharge to percolation pits and were operational this period. The two cooling towers located at Building 827A blend water from a combined discharge line and therefore only one sample is routinely collected to characterize the discharge from these cooling towers.

MRP R5-2008-0148 requires semi-annual sampling of the cooling tower blowdown. Grab samples are collected from the water circulating in the cooling tower, either at a valve or a drainpipe. The grab samples are collected directly into the containers specified by the laboratory. Samples are analyzed for metals, pH, sodium, SC, sulfate, total alkalinity, total dissolved solids, total hardness, and total phosphorus.

3.2. Cooling Tower Blowdown Effluent Sampling and Analysis

Second semester 2019 routine cooling tower blowdown samples were collected on October 22, 2019. Less than 12 hours before cooling tower blowdown sampling, the SC and pH meters are calibrated. SC and pH data measured in the field are written on field tracking forms. CoC forms are filled out appropriately and signed by the sampler for each analytical laboratory to which the samples are transferred; CoC numbers are also written on the field logs. Analytical methods used are appropriate EPA-approved Methods (U.S. Environmental Protection Agency, 2005) or Standard Methods (Clesceri et al., 1998).

3.3. Cooling Tower Blowdown Monitoring Results

All cooling tower sample results are listed in **Appendix B** along with the QA/QC results, field tracking forms, inspection checklists, and CoCs. **Table B-1** lists sodium and anions data. **Table B-2** lists metals results, and **Table B-3** provides required physical characteristics data. QA/QC data from duplicate sampling are provided in **Table B-4**.

The following section includes highlights and a summary of comparisons of second semester 2019 analytical results for each constituent in cooling tower blowdown samples to Designated Level Methodology-derived concentrations calculated using the water quality goals (where they exist) shown in Attachment 16 of the permit (WDR Order No. R5-2008-0148) and maximum historical

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values observed at the time of the permit. For reference, **Appendix D** of this document contains Attachment 16 of the WDR permit.

- **Table B-1** lists results for sodium and anions (chloride, nitrate, sulfate, fluoride, and bromide). The sodium concentrations were above 1,000 mg/L at Buildings 801, 827A and 851 whereas at Buildings 817A and 826, the sodium concentrations were 570 mg/L and 380 mg/L, respectively. The sodium concentrations are similar to those of previous years.
- The second semester 2019 metals concentrations in cooling tower wastewater are displayed in **Table B-2** and summarized below.
 - Aluminum, cadmium, lead, magnesium, manganese, mercury, nickel, silver, and vanadium were not detected in excess of reporting limits in any current cooling tower blowdown samples.
 - Copper concentrations in samples collected during the second semester 2019 ranged from 5.5 µg/L to 28 µg/L, below the maximum historical effluent concentration summarized in Appendix D (2,400 µg/L). The Building 826 sample yielded lower copper concentrations of 5.5 µg/L compared to the first semester concentration from the cooling tower (86 µg/L).
 - The measurable fourth quarter molybdenum concentrations in blowdown samples ranged from 29 µg/L at Building 826 to 44 µg/L at Building 817 while the remaining concentrations were less than 120 µg/L. The molybdenum reporting limit for many samples was 120 µg/L, leading to many non-detectable concentrations.
 - Zinc concentrations in second semester samples ranged from less than the 20 µg/L reporting limit to 150 µg/L, below the maximum historical zinc concentration of 340 µg/L shown in **Appendix D**. The zinc concentrations at the Building 826 and Building 827A cooling towers were lower than the first semester zinc concentrations of 120 µg/L and 210 µg/L, respectively.

Last year, molybdenum and zinc exceeded their historical maxima listed in **Appendix D** (Attachment 16 of the WDR). This year, no cooling tower blowdown constituents exceeded their historical maxima. The concentrations for all the metals in all 2019 cooling tower effluent samples are well below concentrations calculated using the Designated Level Methodology in Appendix D (WDR Order Attachment 16) for impact to ground water. LLNL will continue to evaluate metals concentrations in future samples of cooling tower effluent.

- **Table B-3** lists the physical characteristics of the cooling tower effluent discharges. First semester Building 801 effluent had uncharacteristically high levels of SC, total alkalinity, dissolved solids, and hardness compared to those for the second semester.
- As shown in **Table B-4**, a QA sample was collected from the Building 817A cooling tower on October 22, 2019. The individual routine and duplicate sample results were identical or similar.

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3.4. Cooling Tower Percolation Pit Monthly Inspections

LLNL implements monthly visual inspections of the cooling tower percolation pits located at Buildings 801, 817A, 826, 827A, and 851 (**Figure B-1**), which collect effluent from the cooling towers as specified in MRP R5-2008-0148.

If standing water is present, the MRP requires the inspection frequency to be increased to weekly until standing water is no longer visible. Visual inspections are conducted to verify the percolation pits are working properly and do not have the potential to overflow. Copies of the inspection forms are provided in **Appendix B**.

From July to December, there was one to seven inches of standing water in the Christy boxes at Building 827A and Building 851. Because of the consistent standing water in the boxes, the operations team is evaluating whether precipitation of solids from the water hardness in the cooling tower blowdown may be clogging the rocks at the cooling tower percolation pits. None of the standing water in either of these Christy boxes was near the surface spill point and thus none posed a potential threat to the environment.

4. Mechanical Equipment Effluent Monitoring

4.1. Mechanical Equipment Discharge Monitoring Program

Monitoring requirements for mechanical equipment discharge effluent to percolation pits is specified in the MRP R5-2008-0148. LLNL monitors the mechanical equipment systems located at Buildings 806A, 827A, 827C, 827D, and 827E. In **Appendix C**, **Figure C-1** provides the locations of those systems. Since mid-2016, Building 827D has been undergoing construction and the existing boiler ovens have been replaced with electric ovens. With ongoing construction and electric ovens that do not employ boilers, there has been no discharge to the percolation pit at Building 827D. Two vacuum pumps and a DI water system periodically discharge to the Building 827D percolation pit. The vacuum pumps remove moisture from the air prior to it entering the mixer. The volume of water is minimal, and the DI water system only discharges to the pit in the event of a failure. Monthly inspections are performed. However, no sampling and analysis of water was performed due to the limited discharge activity.

4.2. Mechanical Equipment Effluent Sampling and Analysis

The results for the mechanical equipment room effluent monitoring are reported in data tables in **Appendix C**. Monitoring is performed using automated composite sampling from the Christy during operations. During this monitoring period samples were taken at Buildings 806A, 827A, 827C, and 827E.

For the sampling and analysis of mechanical equipment effluent, for each analytical laboratory, CoC forms are filled out appropriately and signed by the sampler. CoC numbers are also written on the field logs, provided in **Appendix C**. Appropriate EPA-approved analytical methods (U.S. Environmental Protection Agency, 2005) or standard methods (Clesceri et al., 1998) are used.

4.3. Mechanical Equipment Effluent Monitoring Results

There are mechanical equipment percolation pits located at Buildings 806A, 827A, 827C, 827D, and 827E (**Figure C-1**). Sample analytical results for the monitoring network for these pits are presented in tables in **Appendix C**. **Table C-1** lists sodium and anion data, **Table C-2** lists metals

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results and **Table C-3** provides required physical characteristics data. Data from duplicate sampling is provided in the data tables. Constituent concentrations in 2019 effluent samples are protective of underlying ground water, for constituents possessing Designated Level Methodology-derived concentrations as shown in **Appendix D**.

- **Table C-1** lists the nitrate concentrations in all the mechanical equipment discharges; Buildings 806A, 827C, and 827E had nitrate concentrations below the 0.5 mg/L reporting limit. At Building 827A, the second semester nitrate concentration was 3.5 mg/L. Sodium, chloride, and sulfate concentrations were higher than unusual at Building 827A with concentrations of 1,800 mg/L of sodium, 710 mg/L of chloride, and 1,300 mg/L of sulfate (first semester concentrations were 280 mg/L of sodium, 120 mg/L of chloride, and 220 mg/L of sulfate). The potential cause of the high concentrations of anions may be attributed to the discharges from the water softener, vacuum pump, or boilers.
- Metals data are tabulated in **Table C-2**. Many metals (aluminum, cadmium, chromium, lead, magnesium, manganese, mercury, molybdenum, silver, and vanadium) were not detected in excess of their reporting limits. At Building 827A, the second semester 2019 concentration of zinc (120 µg/L) was higher than that of the previous semester (26 µg/L).
- The second semester physical chemistry data from the mechanical equipment discharge effluent monitoring in **Table C-3** were similar to last semester's concentrations. The effluent concentrations in the routine sample from Building 806A were nearly identical to the concentrations in the duplicate sample, with the exception of total dissolved solids (700 mg/L and 740 mg/L, respectively).

4.4. Mechanical Equipment Percolation Pit Monthly Inspections

MRP R5-2008-0148 requires monthly inspections of the five mechanical equipment percolation pits located at Buildings 806A, 827A, 827C, 827D, and 827E. **Appendix C** contains the mechanical equipment percolation pit inspection checklists. If standing water is visible during an inspection, the inspection frequency for that percolation pit is increased to weekly until no standing water is visible.

During the second semester (August to December), one to six inches of standing water was observed at Building 827C. As a result, visual inspections were performed weekly during this period. The gravel/rocks in the pit at Building 827C will be excavated and replaced to improve percolation. In addition, salts have precipitated in the drains and will be cleaned out. These salts arise from mechanical equipment discharge (i.e., the vacuum pump, boilers, and water softener).

5. Septic Systems

5.1. Septic System Monitoring Program

Ground water monitoring requirements for septic system at four areas at Site 300 were specified in MRP R5-2008-0148 (CVRWQCB, 2008). A total of 33 facilities at Site 300 (Figure 2) have septic systems with varying capacities and designs.

In the Revised Monitoring and Reporting Plan (CVRWQCB, 2009), the monitoring requirements for the four septic systems specified in CVRWQCB, 2008 were removed and the MRP was to be

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revised to include ground water monitoring for any septic systems determined to threaten beneficial uses of ground water.

5.2. Septic System Permitting

With the San Joaquin County Environmental Health Department (SJCEHD) obtaining their Local Agency Management Program (LAMP) approval in April 2017 (CVRWQCB, 2017), the jurisdiction for managing onsite wastewater treatment systems (OWTS) came under their purview for systems that received only domestic wastewater from residential or commercial buildings with an average daily flow of less than 10,000 gallons per day. Otherwise, the CVRWQCB regulates larger wastewater treatment systems.

In order to obtain a septic system permit for Site 300 from the SJCEHD, a number of requirements must be satisfied from various regulatory departments:

1. San Joaquin County (SJC) Building Department
 - Send the building inspector the finalized site drawings of the proposed building for building review
2. SJC Planning Department
 - No land use permitting is required for Site 300 if a SJC building permit is not issued
3. SJCEHD
 - Perform a percolation test with instructions from the department website
 - Complete a soil suitability study
 - Complete a nitrate loading study

5.3. Septic System Construction

In the fall of 2019, an OWTS permit was approved by the SJCEHD for a septic system construction for a trailer addition (T8021). The septic tank and leach fields were inspected by SJCEHD on October 31, 2019 and approved. Construction of the septic system was completed in November 2019.

A building renovation and addition near Building 899 has been proposed including designs for a new septic system and leach fields. Construction has not started as the project is currently going out to bid as of February 2020. Updates will be provided in the upcoming semi-annual report.

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Acknowledgments

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Appendix A

Sewage Evaporation and Percolation Pond Network

- Sewer Pond Figures
- Sewer Pond Tables (well specifications)
- Field Tracking Forms/Chain of Custody Forms
- Sewer Pond Inspection Reports
- Ground Water Sampling Data Forms

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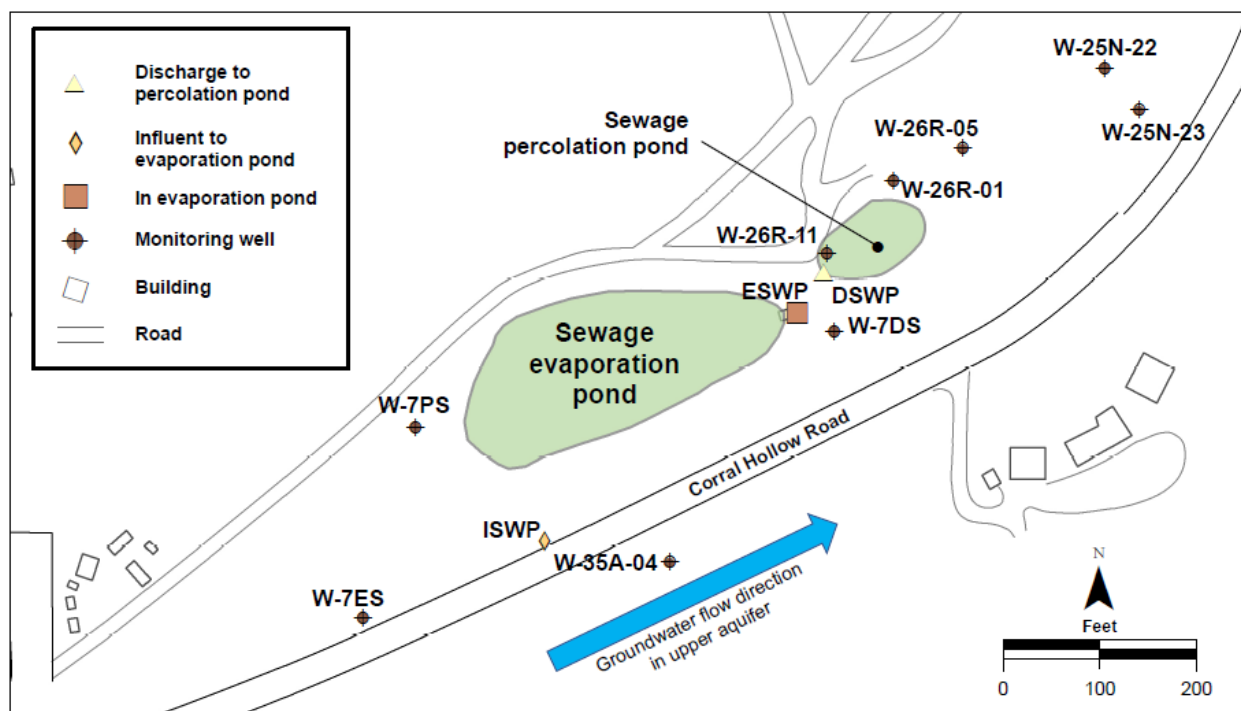


Figure A-1. Sewer pond wastewater and groundwater monitoring network.

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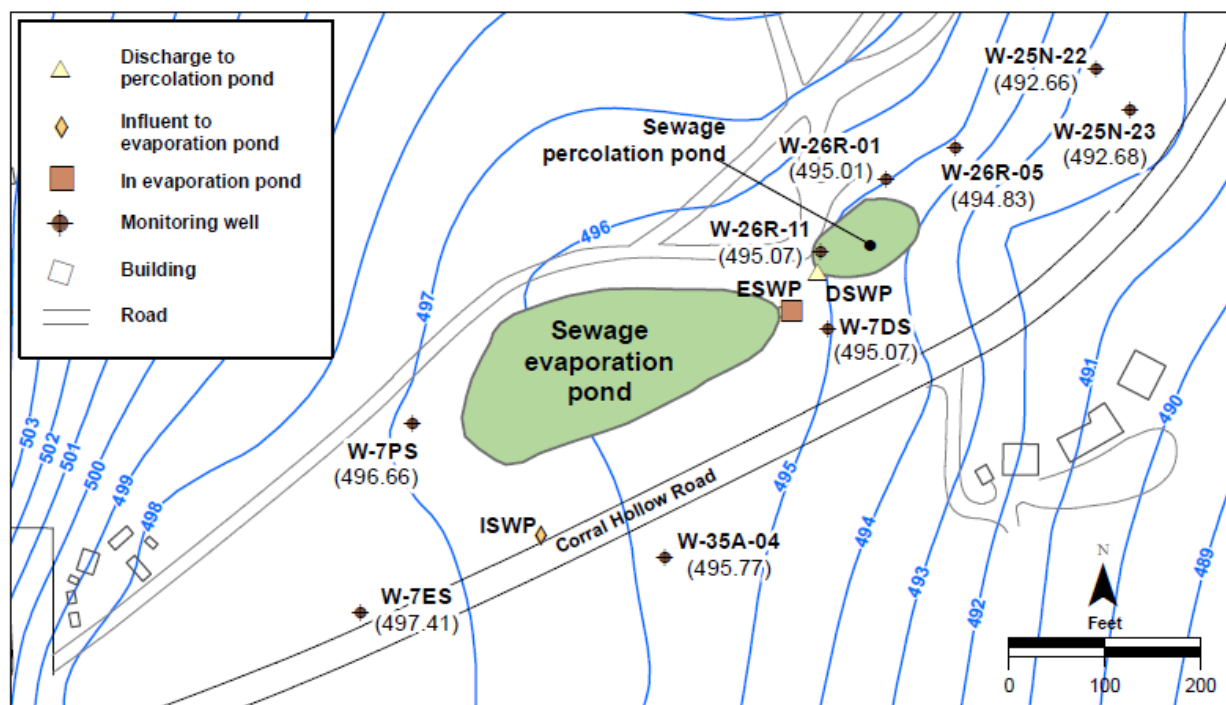


Figure A-2. Site 300 sewer pond wastewater and effluent monitoring network with groundwater elevation (ft-above mean sea level).

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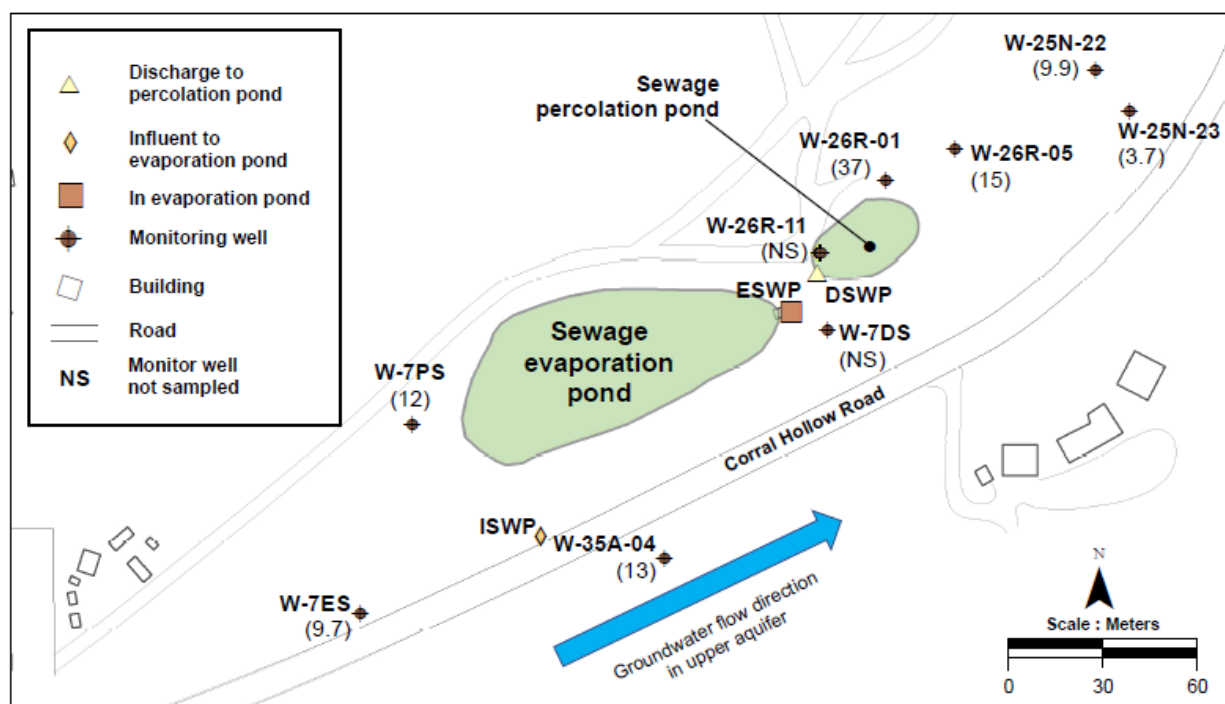


Figure A-3. Site 300 sewer pond wastewater and effluent monitoring network with nitrate (NO_3) concentration (in mg/L).

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Table A-1. Summary of Site 300 sewer pond well specifications.

| Well | HSU | Easting | Northing | Ground surface elevation | Measuring point elevation | Screen top elevation | Screen bottom elevation | Bentonite top elevation | Filter pack top elevation | Well bottom elevation |
|-----------|-----------------------|-----------|----------|--------------------------|---------------------------|----------------------|-------------------------|-------------------------|---------------------------|-----------------------|
| W-7ES | Qal-Tnbs ₁ | 1,711,719 | 414,586 | 506.41 | 509.71 | 491.41 | 481.41 | 496.41 | 495.41 | 479.61 |
| W-7PS | Qal-Tnbs ₁ | 1,711,773 | 414,782 | 506.10 | 508.78 | 489.60 | 486.60 | 494.10 | 492.10 | 486.60 |
| W-35A-04 | Qal-Tnbs ₁ | 1,712,036 | 414,642 | 504.07 | 503.98 | 485.07 | 475.07 | 494.87 | 486.27 | 475.07 |
| W-26R-01 | Qal-Tnbs ₁ | 1,712,267 | 415,036 | 506.74 | 509.71 | 486.94 | 481.94 | 494.24 | 490.74 | 476.94 |
| W-26R-11 | Qal-Tnbs ₁ | 1,712,198 | 414,961 | 504.93 | 507.21 | 489.13 | 479.13 | 493.13 | 491.13 | 477.93 |
| W-26R-05 | Qal-Tnbs ₁ | 1,712,339 | 415,070 | 511.31 | 513.11 | 491.11 | 486.11 | 500.81 | 498.81 | 485.81 |
| W-25N-20* | Qal-Tnbs ₁ | 1,712,371 | 414,923 | 502.11 | 504.94 | 490.11 | 475.11 | 494.61 | 492.61 | 474.11 |
| W-7DS | Qal-Tnbs ₁ | 1,712,206 | 414,880 | 503.30 | 506.60 | 487.80 | 477.80 | 491.80 | 489.80 | 476.30 |
| W-25N-22 | Qal-Tnbs ₁ | 1,712,486 | 415,152 | 510.25 | 513.06 | 492.25 | 482.25 | 497.25 | 495.25 | 481.75 |
| W-25N-23 | Qal-Tnbs ₁ | 1,712,521 | 415,109 | 507.58 | 510.39 | 488.58 | 473.58 | 495.08 | 493.08 | 472.28 |

Notes:

All measurements are made in feet; elevations are in feet above mean sea level.

HSU = Hydrostratigraphic unit.

Qal-Tnbs₁ = Miocene Neroly Formation Lower Blue Sandstone.

*Well W-25N-20 Abandoned

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Table A-2. Site 300 sewer pond groundwater monitoring network 2019 ground water elevation summary.

| Well | Date sampled | Pre-sampling | Ground water depth (ft.) | Ground water elevation (ft. above MSL) |
|----------|--------------|--------------|--------------------------|--|
| W-7ES | Jan 15 | | 21.6 | 488.1 |
| | Mar 13 | PS | 9.2 | 500.5 |
| | Mar 14 | PS | 9.2 | 500.5 |
| | Apr 9 | | 9.0 | 500.7 |
| | May 20 | PS | 9.3 | 500.4 |
| | May 21 | PS | 9.3 | 500.4 |
| | Jul 24 | | 12.3 | 497.4 |
| | Oct 23 | | 16.5 | 493.2 |
| | Dec 11 | PS | 16.4 | 493.3 |
| | Dec 12 | PS | 16.4 | 493.3 |
| W-7PS | Jan 15 | | >18.3 [DRY] | <490.5 [DRY] |
| | Mar 13 | PS | 9.2 | 499.5 |
| | Mar 14 | PS | 9.2 | 499.6 |
| | Apr 9 | | 9.2 | 499.6 |
| | May 20 | PS | 9.5 | 499.3 |
| | May 21 | PS | 9.5 | 499.3 |
| | Jul 24 | | 12.1 | 496.7 |
| | Oct 23 | | 16.1 | 492.7 |
| | Dec 9 | PS | 17.2 | 491.6 |
| | Dec 10 | PS | 17.2 | 491.5 |
| W-35A-04 | Jan 28 | | 15.8 | 488.2 |
| | Mar 13 | PS | 13.2 | 490.9 |
| | Mar 14 | PS | 13.2 | 490.9 |
| | Apr 3 | | 5.0 | 499.1 |
| | Jun 3 | PS | 5.7 | 498.4 |
| | Jun 4 | PS | 5.7 | 498.4 |
| | Aug 7 | | 8.3 | 495.8 |
| | Oct 17 | | 11.5 | 492.5 |
| | Dec 16 | PS | 12.8 | 491.2 |
| | Dec 17 | PS | 12.9 | 491.2 |
| W-25N-23 | Jan 15 | | 24.8 | 485.3 |
| | Mar 11 | PS | 15.8 | 494.3 |
| | Mar 12 | PS | 15.8 | 494.2 |
| | Apr 9 | | 16.0 | 494.1 |
| | Jul 24 | | 17.4 | 492.7 |
| | Oct 23 | | 20.7 | 489.4 |
| W-25N-22 | Jan 15 | | 27.1 | 485.7 |
| | Mar 11 | PS | 18.9 | 493.8 |
| | Mar 12 | PS | 19.0 | 493.8 |
| | Apr 9 | | 18.7 | 494.0 |
| | Jul 24 | | 20.1 | 492.7 |
| | Oct 23 | | 23.1 | 489.6 |

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Table A-2. Site 300 sewer pond groundwater monitoring network 2019 ground water elevation summary continued.

| Well | Date sampled | Pre-sampling | Ground water depth (ft.) | Ground water elevation (ft. above MSL) |
|----------|--------------|--------------|--------------------------|--|
| W-26R-01 | Jan 15 | | 23.0 | 486.7 |
| | Mar 11 | PS | 12.2 | 497.5 |
| | Mar 12 | PS | 12.2 | 497.5 |
| | Apr 9 | | 12.4 | 497.3 |
| | May 13 | PS | 12.3 | 497.4 |
| | May 14 | PS | 12.3 | 497.4 |
| | Jul 24 | | 14.7 | 495.0 |
| | Oct 23 | | 18.5 | 491.2 |
| | Dec 9 | PS | 19.2 | 490.5 |
| | Dec 10 | PS | 19.2 | 490.5 |
| W-26R-05 | Jan 15 | | 25.5 | 487.6 |
| | Mar 11 | PS | 16.2 | 496.9 |
| | Mar 14 | PS | 16.2 | 496.9 |
| | Apr 9 | | 16.2 | 496.9 |
| | May 13 | PS | 16.9 | 496.2 |
| | May 21 | PS | 16.9 | 496.2 |
| | Jul 24 | | 18.3 | 494.8 |
| | Oct 23 | | 21.7 | 491.4 |
| | Dec 9 | PS | 21.1 | 492.0 |
| | Dec 17 | PS | 21.1 | 492.0 |
| W-26R-11 | Jan 15 | | 20.3 | 486.6 |
| | Apr 9 | | 9.4 | 497.5 |
| | Jul 24 | | 11.8 | 495.1 |
| | Oct 23 | | 15.7 | 491.2 |
| W-7DS | Jan 15 | | 19.7 | 486.7 |
| | Apr 9 | | 8.7 | 497.6 |
| | Jul 24 | | 11.2 | 495.1 |
| | Oct 23 | | 15.1 | 491.2 |

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Table A-3. Site 300 sewer pond wastewater monitoring network 2019 coliform, anion, and physical characteristic data summary.

| Well | Date | pH | Specific Conductance µmhos/cm | Biochemical Oxygen Demand mg/L | Dissolved Oxygen mg/L | Fecal Coliform MPN/100mL | Total Coliform MPN/100mL | Sodium mg/L |
|-----------|--------|-----|----------------------------------|-----------------------------------|--------------------------|-----------------------------|-----------------------------|----------------|
| 3-ESWP-OW | Apr 30 | 9.7 | 7400 | 43 | 19 | 1600 | >1600 | 1700 |
| | Sep 24 | 9.6 | 8500 | 67 | 40 | >1600 | >1600 | 2300 |
| 3-ISWP-OW | Apr 30 | 8.8 | 2000 | 200 | - | - | - | - |
| | Sep 24 | 9.0 | 1800 | 280 | - | - | - | - |

Note:

– = Analysis not required.

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Table A-4. Site 300 sewer pond wastewater monitoring network 2019 metals data summary.

| Analyte (µg/L) | Date | 3-ESWP-OW |
|---------------------|--------|-----------|
| Aluminum | Apr 30 | <100 |
| | Sep 24 | 510 |
| Arsenic | Apr 30 | 7.1 |
| | Sep 24 | 10 |
| Barium | Apr 30 | 58 |
| | Sep 24 | <50 |
| Boron | Apr 30 | 7300 |
| | Sep 24 | 8400 |
| Cadmium | Apr 30 | <100 |
| | Sep 24 | <100 |
| Calcium | Apr 30 | 10000 |
| | Sep 24 | 12000 |
| Chromium | Apr 30 | 5.9 |
| | Sep 24 | 9.3 |
| Hexavalent Chromium | Apr 30 | <1 |
| | Sep 24 | <1 |
| Copper | Apr 30 | 10 |
| | Sep 24 | 16 |
| Iron | Apr 30 | 230 |
| | Sep 24 | 780 |
| Lead | Apr 30 | <10 |
| | Sep 24 | <10 |
| Magnesium | Apr 30 | 3900 |
| | Sep 24 | 4800 |
| Manganese | Apr 30 | <60 |
| | Sep 24 | 190 |
| Mercury | Apr 30 | <0.8 |
| | Sep 24 | <0.2 |
| Molybdenum | Apr 30 | 160 |
| | Sep 24 | 190 |
| Nickel | Apr 30 | 8.3 |
| | Sep 24 | 11 |
| Potassium | Apr 30 | 82000 |
| | Sep 24 | 100000 |
| Selenium | Apr 30 | 5.8 |
| | Sep 24 | <4 |
| Silver | Apr 30 | <20 |
| | Sep 24 | <20 |
| Vanadium | Apr 30 | <40 |
| | Sep 24 | <40 |
| Zinc | Apr 30 | 67 |
| | Sep 24 | 53 |

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Table A-5. Site 300 sewer pond wastewater monitoring network 2019 QA data.

| Well | Date | Type | pH | Specific Conductance µmhos/cm | Biochemical Oxygen Demand mg/L | Dissolved Oxygen mg/L | Fecal Coliform MPN/100mL | Total Coliform MPN/100mL | Sodium mg/L |
|-----------|--------|-----------|-----|-------------------------------------|---|-----------------------------|--------------------------------|--------------------------------|----------------|
| 3-ESWP-OW | Apr 30 | Routine | 9.7 | 7400 | 43 | 19 | 1600 | >1600 | 1700 |
| | Apr 30 | Duplicate | 8.8 | - | - | - | - | - | - |
| 3-ISWP-OW | Sep 24 | Routine | 9.0 | 1800 | 280 | - | - | - | - |
| | Sep 24 | Duplicate | 8.4 | - | - | - | - | - | - |

Note:

– = Analysis not required.

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Table A-6. Site 300 sewer pond groundwater monitoring network 2019 anions data summary.

| Well | Date | Sodium mg/L | Chloride mg/L | Nitrate (as NO ₃) mg/L | Sulfate mg/L | Fluoride mg/L |
|----------|--------|----------------|------------------|--|-----------------|------------------|
| W-7ES | Mar 13 | 110 | 84 | 12 | 200 | 0.34 |
| W-7ES | May 20 | - | - | 8.8 | - | - |
| W-7ES | Sep 18 | 140 | 130 | 8.7 | 290 | 0.31 |
| W-7ES | Dec 11 | - | - | 9.3 | - | - |
| W-7PS | Mar 13 | 120 | 92 | 13 | 180 | 0.37 |
| W-7PS | May 20 | - | - | 11 | - | - |
| W-7PS | Sep 9 | 180 | 140 | 11 | 260 | 0.31 |
| W-7PS | Dec 9 | - | - | 12 | - | - |
| W-35A-04 | Mar 13 | 130 | 110 | 14 | 260 | 0.38 |
| W-35A-04 | Jun 3 | - | - | 14 | - | - |
| W-35A-04 | Sep 18 | 150 | 130 | 13 | 290 | 0.33 |
| W-35A-04 | Dec 16 | - | - | 12 | - | - |
| W-25N-23 | Mar 11 | 180 | 140 | 11 | 350 | 0.41 |
| W-25N-23 | Sep 4 | 170 | 120 | 3.7 | 390 | 0.45 |
| W-25N-22 | Mar 11 | 190 | 170 | 9.7 | 510 | 0.34 |
| W-25N-22 | Sep 4 | 170 | 140 | 9.9 | 500 | 0.30 |
| W-26R-01 | Mar 11 | 180 | 150 | 28 | 230 | 0.27 |
| W-26R-01 | May 13 | - | - | 23 | - | - |
| W-26R-01 | Sep 9 | 190 | 140 | 22 | 240 | 0.29 |
| W-26R-01 | Dec 9 | - | - | 37 | - | - |
| W-26R-05 | Mar 11 | 170 | 120 | 18 | 230 | 0.31 |
| W-26R-05 | May 13 | - | - | 21 | - | - |
| W-26R-05 | Sep 9 | 160 | 130 | 15 | 230 | 0.28 |
| W-26R-05 | Dec 9 | - | - | 4.2 | - | - |

Note:

– = Analysis not required.

Wells W-7DS and W-26R-11 were inoperable this second semester. A work order has been requested for repair.

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Table A-7. Site 300 sewer pond groundwater monitoring network 2019 coliform data summary.

| Well | Date | Fecal Coliform MPN/100mL | Total Coliform MPN/100mL |
|-------------|-------------|-------------------------------------|-------------------------------------|
| W-7ES | Mar 14 | <1.8 | <1.8 |
| W-7ES | May 21 | <1.8 | 2.0 |
| W-7ES | Sep 19 | <1.8 | <1.8 |
| W-7ES | Dec 12 | <1.8 | 2.0 |
| W-7PS | Mar 14 | <1.8 | <1.8 |
| W-7PS | May 21 | <1.8 | <1.8 |
| W-7PS | Sep 10 | <1.8 | 49 |
| W-7PS | Dec 10 | <1.8 | <1.8 |
| W-35A-04 | Mar 14 | <1.8 | <1.8 |
| W-35A-04 | Jun 4 | <1.8 | 49 |
| W-35A-04 | Dec 17 | <1.8 | >1600 |
| W-25N-23 | Mar 12 | <1.8 | 2.0 |
| W-25N-23 | Sep 5 | <1.8 | <1.8 |
| W-25N-22 | Mar 12 | <1.8 | <1.8 |
| W-25N-22 | Sep 5 | <1.8 | <1.8 |
| W-26R-01 | Mar 12 | <1.8 | <1.8 |
| W-26R-01 | May 14 | <1.8 | <1.8 |
| W-26R-01 | Sep 10 | <1.8 | <1.8 |
| W-26R-01 | Dec 10 | <1.8 | <1.8 |
| W-26R-05 | Mar 14 | <1.8 | <1.8 |
| W-26R-05 | May 21 | <1.8 | <1.8 |
| W-26R-05 | Sep 12 | <1.8 | 32 |
| W-26R-05 | Dec 17 | <1.8 | 3.6 |

Note:

Wells W-7DS and W-26R-11 were inoperable this second semester. A work order has been requested for repair.

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table A-8. Site 300 sewer pond groundwater monitoring network 2019 physical chemistry data.

| Well | Date | pH | Specific Conductance µmhos/cm | Total Alkalinity (as CaCO ₃) mg/L | Total dissolved solids (TDS) mg/L | Total Hardness (as CaCO ₃) mg/L | Total Phosphorus (as PO ₄) mg/L |
|----------|--------|-----|----------------------------------|---|--------------------------------------|--|---|
| W-7ES | Mar 13 | 7.9 | 1070 | 220 | 730 | 310 | <1 |
| W-7ES | May 20 | 8.0 | 1220 | - | - | - | - |
| W-7ES | Sep 18 | 8.0 | 1440 | 260 | 1000 | 460 | <1 |
| W-7ES | Dec 11 | 8.0 | 1430 | - | - | - | - |
| W-7PS | Mar 13 | 7.9 | 1080 | 220 | 750 | 260 | <1 |
| W-7PS | May 20 | 8.0 | 1310 | - | - | - | - |
| W-7PS | Sep 9 | 7.7 | 1450 | 280 | 960 | 330 | <1 |
| W-7PS | Dec 9 | 7.6 | 1450 | - | - | - | - |
| W-35A-04 | Mar 13 | 8.0 | 1330 | 260 | 860 | 370 | <1 |
| W-35A-04 | Jun 3 | 7.8 | 1290 | - | - | - | - |
| W-35A-04 | Sep 18 | 7.9 | 1440 | 280 | 1100 | 440 | <1 |
| W-35A-04 | Dec 16 | 7.8 | 1460 | - | - | - | - |
| W-25N-23 | Mar 11 | 7.5 | 1530 | 230 | 1000 | 370 | <1 |
| W-25N-23 | Sep 4 | 7.7 | 1550 | 240 | 1000 | 420 | <1 |
| W-25N-22 | Mar 11 | 7.8 | 1880 | 240 | 1300 | 500 | <1 |
| W-25N-22 | Sep 4 | 7.9 | 1750 | 220 | 1200 | 510 | <1 |
| W-26R-01 | Mar 11 | 7.8 | 1410 | 240 | 920 | 260 | <1 |
| W-26R-01 | May 13 | 7.9 | 1360 | - | - | - | - |
| W-26R-01 | Sep 9 | 7.8 | 1390 | 250 | 930 | 240 | <1 |
| W-26R-01 | Dec 9 | 7.9 | 1410 | - | - | - | - |
| W-26R-05 | Mar 11 | 8.1 | 1330 | 260 | 860 | 270 | <1 |
| W-26R-05 | May 13 | 8.2 | 1360 | - | - | - | - |
| W-26R-05 | Sep 9 | 8.0 | 1320 | 240 | 880 | 260 | <1 |
| W-26R-05 | Dec 9 | 8.1 | 1140 | - | - | - | - |

Note:

– = Analysis not required.

Wells W-7DS and W-26R-11 were inoperable this second semester. A work order has been requested for repair.

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table A–9. Site 300 sewer pond groundwater monitoring network 2019 metals data summary.

| Analyte (µg/L) | Month | W-7ES | W-7PS | W-35A-04 | W-25N-23 | W-25N-22 | W-26R-01 | W-26R-05 |
|---------------------|-------|--------|-------|----------|----------|----------|----------|----------|
| Aluminum | Mar | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| | Sep | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Arsenic | Mar | 2.4 | 3.8 | 3.1 | 8.9 | 11 | 9.1 | 8.6 |
| | Sep | <2 | 3.2 | 2.8 | 10 | 10 | 7.9 | 8.1 |
| | Dec | - | - | 3.6 | - | - | - | - |
| Barium | Mar | 32 | 41 | 35 | 28 | 36 | 32 | 34 |
| | Sep | 47 | 59 | 42 | 29 | 35 | 32 | 32 |
| | Dec | - | - | 43 | - | - | - | - |
| Boron | Mar | 1700 | 1500 | 2200 | 1600 | 1700 | 1500 | 1300 |
| | Sep | 2200 | 2100 | 2300 | 1500 | 1300 | 1500 | 1300 |
| Cadmium | Mar | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| | Sep | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| | Dec | - | - | <0.5 | - | - | - | - |
| Calcium | Mar | 70000 | 60000 | 83000 | 89000 | 120000 | 65000 | 69000 |
| | Sep | 100000 | 76000 | 100000 | 100000 | 120000 | 60000 | 65000 |
| Chromium | Mar | 5.7 | 6.1 | 7.1 | 4.5 | 4.3 | 5.1 | 5.2 |
| | Sep | <1 | <1 | 1.1 | 1.4 | 1.0 | <1 | <1 |
| | Dec | - | - | 2.5 | - | - | - | - |
| Hexavalent Chromium | Mar | <1 | 1.1 | <1 | <1 | <1 | <1 | <1 |
| | Sep | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Copper | Mar | 1.6 | 2.7 | 3.3 | 2.4 | 3.7 | 2.2 | 1.9 |
| | Sep | <1 | 1.5 | 1.4 | 2.5 | 4.0 | 2.3 | 1.9 |
| | Dec | - | - | <10 | - | - | - | - |
| Iron | Mar | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| | Sep | <100 | <100 | <100 | <100 | <100 | <100 | <100 |
| Lead | Mar | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Sep | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| | Dec | - | - | <2 | - | - | - | - |
| Magnesium | Mar | 33000 | 26000 | 40000 | 35000 | 49000 | 23000 | 25000 |
| | Sep | 47000 | 34000 | 45000 | 40000 | 49000 | 22000 | 25000 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table A–9. Site 300 sewer pond groundwater monitoring network 2019 metals data summary continued.

| Analyte (µg/L) | Month | W-7ES | W-7PS | W-35A-04 | W-25N-23 | W-25N-22 | W-26R-01 | W-26R-05 |
|----------------|-------|-------|-------|----------|----------|----------|----------|----------|
| Manganese | Mar | <30 | <30 | <30 | <30 | <30 | <30 | <30 |
| | Sep | <30 | <30 | <30 | <30 | <30 | <30 | <30 |
| Mercury | Mar | <0.2 | <0.2 | 0.28 | <0.2 | <0.2 | <0.2 | <0.2 |
| | Sep | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| | Dec | - | - | <0.2 | - | - | - | - |
| Molybdenum | Mar | <25 | <25 | <25 | <25 | <25 | <25 | <25 |
| | Sep | <25 | <25 | <25 | <25 | <25 | <25 | <25 |
| | Dec | - | - | <25 | - | - | - | - |
| Nickel | Mar | 2.1 | 5.1 | 2.4 | 3.1 | 4.9 | <2 | <2 |
| | Sep | <2 | 2.0 | <2 | 2.0 | 3.7 | <2 | <2 |
| | Dec | - | - | <5 | - | - | - | - |
| Potassium | Mar | 3700 | 4600 | 4400 | 9800 | 12000 | 10000 | 11000 |
| | Sep | 5300 | 6100 | 5300 | 11000 | 12000 | 11000 | 12000 |
| | Dec | - | - | 5000 | - | - | - | - |
| Selenium | Mar | 7.0 | 11 | 7.3 | 10 | 8.9 | 11 | 7.5 |
| | Sep | 3.0 | 9.7 | 3.0 | 2.9 | 4.1 | 7.1 | 5.3 |
| | Dec | - | - | 6.2 | - | - | - | - |
| Silver | Mar | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | Sep | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| | Dec | - | - | <0.5 | - | - | - | - |
| Vanadium | Mar | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| | Sep | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| | Dec | - | - | <10 | - | - | - | - |
| Zinc | Mar | 31 | 30 | 26 | 33 | 45 | 40 | 36 |
| | Sep | <20 | <20 | <20 | <20 | 25 | 27 | <20 |
| | Dec | - | - | <20 | - | - | - | - |

Note:

Wells W-7DS and W-26R-11 were inoperable this second semester. A work order has been requested for repair.

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table A-10. Site 300 sewer pond groundwater monitoring network second semester 2019 QA data.

| Constituent | Units | W-7ES | | | | W-7PS | | | | W-26R-01 | | | | W-26R-05 | | | |
|-------------------------------|-----------|--------|--------|--------|--------|-------|-------|--------|--------|----------|-------|--------|--------|----------|-------|--------|--------|
| | | Dec 11 | Dec 11 | Dec 12 | Dec 12 | Sep 9 | Sep 9 | Sep 10 | Sep 10 | Sep 9 | Sep 9 | Sep 10 | Sep 10 | Dec 9 | Dec 9 | Dec 17 | Dec 17 |
| | | R | D | R | D | R | D | R | D | R | D | R | D | R | D | R | D |
| pH | Units | 8.0 | 8.0 | - | - | 7.7 | 7.7 | - | - | 7.8 | 7.8 | - | - | 8.1 | 8.0 | - | - |
| Specific Conductance | µmhos/cm | 1430 | 1430 | - | - | 1450 | 1440 | - | - | 1390 | 1390 | - | - | 1140 | 1170 | - | - |
| Fecal Coliform | MPN/100mL | - | - | <1.8 | <1.8 | - | - | <1.8 | <1.8 | - | - | <1.8 | <1.8 | - | - | <1.8 | <1.8 |
| Total Coliform | MPN/100mL | - | - | 2.0 | 540 | - | - | 49 | 79 | - | - | <1.8 | <1.8 | - | - | 3.6 | 7.8 |
| Nitrate (as NO ₃) | mg/L | 9.3 | 9.7 | - | - | 11 | 11 | - | - | 22 | 22 | - | - | 4.2 | 4.3 | - | - |

Note: R – Routine
D – Duplicate

FIELD TRACKING FORM
INFLUENT TO SITE 300 SEWAGE POND

DATE: 9/24/19

TIME: 9:40

| | |
|-----------|-----------|
| Lab | Alpha Lab |
| CoC # | 80746 |
| Ship It # | 249317 |

Special Instructions: **Semi-Annual Sampling in 2nd and 4th Quarters (April & Oct)**
Samples should be taken after 1 p.m. during higher flow.
Print collection time on sample bottles.
BOD Hold Time 48hr. Conductivity/pH Hold Time 24hr.

pH meter calibrated 9/24/19
 Conductivity meter calibrated 9/24/19
 DO meter calibrated 9/24/19

| Location | Field Measurements | | | | Comments | Initials | Samples for Lab Analysis |
|--|--------------------|------|----------|-----------|----------|------------|--|
| | pH | COND | DO (PPM) | Temp (°C) | | | |
| 3-ISWP-01-OW (Influent to Sewage Pond) | 8.58 | 1478 | 2.89 | 21.7 | | | Analytical Codes: E120.1A & E150.1A (Conductivity/pH) (2 X 250-mL poly) <u>✓</u> |
| 3-WSWP-01-OW duplicate of 3-ISWP-01-OW | 8.58 | 1478 | 2.89 | 21.7 | | KS, TG, RL | SM5210B-A (BOD) (1 X 1 Liter poly) <u>✓</u> |

2Q2019 Duplicate
 4Q2019 Duplicate

See ESWP Field Tracking Form
 E150.1A

☒ Copy to Analysts, Ada Chan.

FIELD TRACKING FORM
EAST END OF SITE 300 SEWAGE POND

| Lab | Alpha | BC |
|-----------|--------|--------|
| CoC # | 80746 | 80747 |
| Ship It # | 249317 | 249319 |
| | | |

DATE: 9/24/19

TIME: 0950

| | | | |
|--|---|-------------------------------|----------------|
| Special Instructions: | Semi-Annual Sampling in 2nd and 4th Quarters (April & Oct) | pH meter calibrated | <u>9/24/19</u> |
| Samples should be taken after 1 p.m. | | Conductivity meter calibrated | <u>9/24/19</u> |
| Print collection time on sample bottles. | | DO meter calibrated | <u>9/24/19</u> |
| DO/conductivity/pH hold time 24 hr. | | | |

| Location | Field Measurements | | | | | Comments | Initials | Samples for Lab Analysis |
|--|--------------------|--------|-------|----------|-----------|----------|----------------|---|
| | pH | COND | Depth | DO (PPM) | Temp (°C) | | | Analytical Codes: |
| 3-ESWP-01-OW (East end of Sewage Pond) | | | 1' | | | | KB RG TG | Alpha LAB E360.1 DO (1x300mL PET Poly with glass stopper) ✓ E120.1A & E150.1A Conductivity/pH (2x250-mL poly) ✓ SM9221 Total, Fecal Coliform (1x125mL sterilized poly) 6hr hold ✓ SM5210B-A BOD (1x1 Liter poly) ✓ BC Labs S3METALS (1X500mL Poly) ✓ |
| 3-WSWP-01-OW duplicate of 3-ESWP-01-OW | 9.65 | 8.69ms | | 18.67 | 20.0 | | | |

2Q2019 Duplicate
 4Q2019 Duplicate

E150.1A
 See ISWP Field Tracking Form

☒ Copy to Analysts, Ada Chan.

Chain of Custody

**EFA Data Management Team
Lawrence Livermore National Laboratory
P.O. Box 808 L-627
Livermore, CA 94551**

Work Authorized By: EFA
TRR Approver: DELLA BURRUSS
Project Info: _____

Access/COC #: 80746
Document Control #: 80746
Requester/LLNL Analyst: A. Chan
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 44497
PCI Task #: ES&H Bills and Taxes
Email: efa-dmt@llnl.gov

DMT Additional Copies:

Analytical Lab : ALPHAANAL

TAT:20d

Analytical Lab Log #:



Project/Network: WDRPOND

Shiplt Release #: 249317

Add'l Email:

Additional Instructions:

$$BAL = 3.0^{\circ}C$$
[illegible]

| Relinquished Signature | | Company | Date | Time | Received Signature | | Company | Date | Time |
|------------------------|---|----------|-----------|-------|--------------------|---|---------|---------|-------|
| 1 |  | LLNL/EFA | 9/24/2019 | 11:10 | 2 |  | AAL | 9/27/19 | 11:10 |
| 2 | | | | | 3 | | | | |
| 3 | | | | | 4 | | | | |
| 4 | | | | | 5 | | | | |

Chain of Custody

**EFA Data Management Team
Lawrence Livermore National Laboratory
P.O. Box 808 L-627
Livermore, CA 94551**



Work Authorized By: EFA
TRR Approver: DELLA BURRUSS
Project Info: _____

Access/COC #: 80747
Document Control #: 80747
Requester/LLNL Analyst: A. Chan
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 44497
PCI Task #: ES&H Bills and Taxes
Email: efa-dmt@llnl.gov
DMT Additional Copies:

Analytical Lab : BCLABS-BAK
TAT: 20d
lytical Lab Log #: _____
Project/Network: WDRPOND
Shipt Release #: 249319
Add'l Email: _____

Additional Instructions:

[illegible]

| Relinquished Signature | | Company | Date | Time | Received Signature | | Company | Date | Time |
|------------------------|---|----------|-----------|------|--------------------|---|---------|---------|------|
| 1 |  | LLNL/EFA | 9/24/2019 | 1540 | 2 |  | Bc Lab | 9-24-19 | 1630 |
| 2 | | | | | 3 | | | | |
| 3 | | | | | 4 | | | | |
| 4 | | | | | 5 | | | | |

LLNL Site 300 Sewer / Wastewater Evaporation Pond Weekly Inspection & Monitoring Report

YEAR 2019 MONTH July

[illegible]

**LLNL Site 300 Sewer / Wastewater Evaporation Pond
Weekly Inspection & Monitoring Report**

YEAR 2019

MONTH July

[illegible]

(111,207 gallons Added)

| Over Flow Basin | | |
|-----------------|--------------------------------|---|
| Water Level | Overall Condition Poor/Fair | Note any animal burrows, erosion or weeds |
| 1 | Poor | Looking for better water choices |
| 2 | | |
| 3 | | |
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| 50 | | |

Weekly Inspection & Monitoring Report

YEAR 2019 MONTH Aug

[illegible]

LLNL Site 300 Sewer / Wastewater Evaporation Pond
Weekly Inspection & Monitoring Report

YEAR 2019

MONTH Aug

[illegible]

4th
on

[illegible]

(58,151 gallons)

LLNL Site 300 Sewer / Wastewater Evaporation Pond Weekly Inspection & Monitoring Report

YEAR 2019 MONTH Sept

[illegible]

**LLNL Site 300 Sewer / Wastewater Evaporation Pond
Weekly Inspection & Monitoring Report**

YEAR 2019 MONTH Sept.

[illegible][illegible]

(204,694 gallons)

YEAR 2019 MONTH Oct.

[illegible]

**LLNL Site 300 Sewer / Wastewater Evaporation Pond
Weekly Inspection & Monitoring Report**

YEAR 2019

MONTH Oct.

[illegible][illegible]

Weekly Inspection & Monitoring Report

YEAR 2019 MONTH Nov

[illegible]

**LLNL Site 300 Sewer / Wastewater Evaporation Pond
Weekly Inspection & Monitoring Report**

YEAR 2019

MONTH Nov

[illegible]

(13,457) gallons

[illegible]

Weekly Inspection & Monitoring Report

YEAR 2019 MONTH Dec.

[illegible]

**LLNL Site 300 Sewer / Wastewater Evaporation Pond
Weekly Inspection & Monitoring Report**

YEAR 2019 MONTH Dec

[illegible][illegible]

All Ground Water Sampling Data

Target Sample Date: 09-DEC-2019

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: W-7DS AREA INFO: S300/GSA/EGSA

DATE: 09-Dec-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40040

PURGE METHOD/SAMPLE METHOD: Grundfos / 3VES CONTAMINANT PRESENT: ND

SCREENED INTERVAL (ft-bmp): 18.80 - 28.80 PUMP INTAKE DEPTH: 27.80

CASING DEPTH(installed/sounded)(ft-bmp): 27.00 / 30.30 on 17-MAY-17 CASING VOL (Gal/Time): 12.31

DEPTH TO WATER(ft-bmp): 15.10 on 23-OCT-19 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 14.90 CASING DIAMETER/TCASING HT(in): 4.5 / 3.00

TIME PUMP ON: INITIAL FLOW RATE (Q=GPM):

TIME PUMP OFF: MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|----|--------|----|----|----|-----|
| | | | | | | | | | |
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METER SERIAL # CALIBRATED
pH : YES/NO
SC : YES/NO
mV : YES/NO
H2O: YES/NO

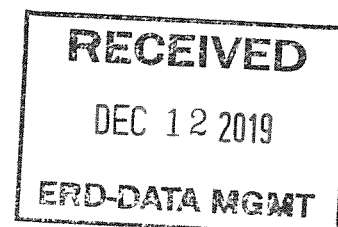
SAMPLER/EMPLOYER: silva90
PROJECT: 3CMP 3EMG
SAMPLE PRESERVATION/AMT of REAGENT:
PURGE VOL/EXCESS H2O DEST: 36.93 / S300-DRUM
TF LOCATION: S300

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): TIME COLLECTED:

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-7DS | E300.0:NO3 | 1 | 250 ml P | |
| BB | W-7DS | E624MOD | 3 | 40 mL V | |
| BB | W-7DS | SM2510B | 1 | 250 ml P | |
| BB | W-7DS | SM4500PH | 1 | 250 ml P | |
| AA | W-7DS | SM9221 | 1 | 250 ml P | |

Pump inoperable
No Samples



All Ground Water Sampling Data

Target Sample Date: 11-DEC-2019

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: W-7E AREA INFO: S300/GSA/CGSADATE: 11-Dec-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40042PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: NDSCREENED INTERVAL (ft-bmp): 61.68 - 80.88 PUMP INTAKE DEPTH: 78.00CASING DEPTH(installed/sounded)(ft-bmp): 78.00 / 80.88 on 28-JAN-87 CASING VOL (Gal/Time): 52.87 53.38DEPTH TO WATER(ft-bmp): 16.59 on 23-OCT-19 16.40 VOLUME FACTOR: 0.826 159.9WATER IN CASING (ft): 63.99 64.48 CASING DIAMETER/TCASING HT(in): 4.5 / 2.58TIME PUMP ON: 0819 INITIAL FLOW RATE (Q=GPM): 3.00TIME PUMP OFF: 0921 MEASURED BY: FLOW METER GRAD CYL./ BUCKET/ OTHER

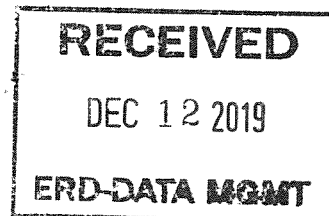
| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 0837 | | 53.3 | 1 | 7.41 | 20.8 | 1333 | 112 | 1 | 16.56 |
| 0855 | | 106.6 | 2 | 7.40 | 21.0 | 1340 | 101 | 1 | 16.70 |
| 0913 | | 159.9 | 3 | 7.38 | 21.0 | 1344 | 89 | 1 | 16.78 |
| 0915 | | | | 7.40 | 21.0 | 1352 | 85 | | |
| 0917 | | | | 7.39 | 21.0 | 1350 | 88 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # 610084 CALIBRATED
 pH : YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O : YES/NO

SAMPLER/EMPLOYER: silva90
 PROJECT: 3EMG 3CMP
 SAMPLE PRESERVATION/AMT OF REAGENT: NA
 PURGE VOL/EXCESS H2O DEST: 158.61 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: - QC LAB(S): - QC SAMPLE TIME: -SAMPLE ID (VERIFY): W-7E / 3VES TIME COLLECTED: 0921

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|---------------|-----------------|--------------------|---|---------------------|-----------------|
| BB | W-7E | E300.0:NO3 | 1 | 250 ml P | |
| BB | W-7E | E624MOD | 3 | 40 mL V | |
| BB | W-7E | SM2510B | 1 | 250 ml P | |
| BB | W-7E | SM4500PH | 1 | 250 ml P | |
| AA | W-7E | SM9221 | 1 | 250 ml P | |



All Ground Water Sampling Data

Target Sample Date: 18-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-7ES AREA INFO: S300/GSA/CGSA

DATE: 18-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40008

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: NO3-11

SCREENED INTERVAL (ft-bmp): 18.30 - 28.30 PUMP INTAKE DEPTH: 26.30

CASING DEPTH(installed/sounded)(ft-bmp): 26.80 / 30.10 on 21-JAN-87 CASING VOL (Gal/Time): 14.46 12.3x30=

DEPTH TO WATER(ft-bmp): 12.30 on 24-JUL-19 15.18 VOLUME FACTOR: 0.826 36.9 Gal

WATER IN CASING (ft): 17.50 14.92 CASING DIAMETER/TCASING HT(in): 4.5 / 3.00

TIME PUMP ON: 0900 INITIAL FLOW RATE (Q=GPM): 2.5

TIME PUMP OFF: 0923 MEASURED BY: FLOW METER / GRAD CYL. / BUCKET / OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|----|----|-------|
| 0905 | | 12.3 | 1 | 7.34 | 22.9 | 1473 | 37 | 1 | 15.25 |
| 0910 | | 24.6 | 2 | 7.31 | 23.0 | 1454 | 32 | 1 | 15.29 |
| 0915 | | 36.9 | 3 | 7.30 | 23.0 | 1451 | 28 | 1 | 15.34 |
| 0917 | | | | | | | | | |
| 0919 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # CALIBRATED
 pH : 610084 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O : YES/NO

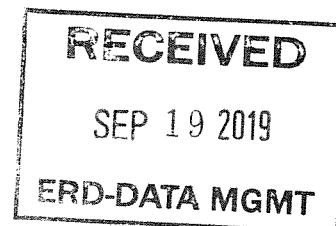
SAMPLER/EMPLOYER: silva90
 PROJECT: 3MRP
 SAMPLE PRESERVATION/AMT of REAGENT: NA
 PURGE VOL/EXCESS H2O DEST: 43.38 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-7ES / 3VES TIME COLLECTED: 0923

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-7ES | S3ANIONS | 1 | 250 ml P | |
| BB | W-7ES | S3METALS | 1 | 500ml P | |
| BB | W-7ES | S3METALS:FILTER | 0 | O | |
| BB | W-7ES | S3WETCHEM | 2 | 500ml P | |
| AA | W-7ES | SM9221 | 1 | 250 ml P | |

Adelco or of CL



All Ground Water Sampling Data

Target Sample Date: 19-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-7ES AREA INFO: S300/GSA/CGSADATE: 19-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40008PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: NQ3-11SCREENED INTERVAL (ft-bmp): 18.30 - 28.30 PUMP INTAKE DEPTH: 26.30CASING DEPTH(installed/sounded)(ft-bmp): 26.80 / 30.10 on 21-JAN-87 CASING VOL (Gal/Time): 14.46 *12.3830*DEPTH TO WATER(ft-bmp): 12.30 on 24-JUL-19 *15.18* VOLUME FACTOR: 0.826 *36.9 Gal*WATER IN CASING (ft): 17.50 *14.92* CASING DIAMETER/TCASING HT(in): 4.5 / 3.00TIME PUMP ON: 1416 INITIAL FLOW RATE (Q=GPM): 2.5 GpmTIME PUMP OFF: 1440 MEASURED BY: FLOW METER / GRAD CYL. / BUCKET / OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1421 | | 12.3 | 1 | 7.32 | 22.9 | 1460 | 443 | 1 | 15.24 |
| 1426 | | 24.6 | 2 | 7.32 | 23.0 | 1455 | 387 | 1 | 15.33 |
| 1431 | | 36.9 | 3 | 7.30 | 23.1 | 1451 | 351 | 1 | 15.39 |
| 1433 | | | | 7.31 | 23.1 | 1450 | 266 | 1 | |
| 1435 | | | | 7.31 | 23.1 | 1451 | 220 | 1 | |
| | | | | | | | | | |
| | | | | | | | | | |

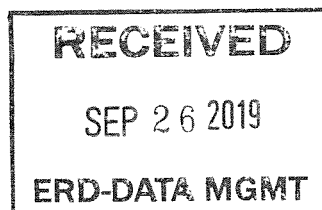
METER SERIAL # 610084 CALIBRATED
 pH : YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

SAMPLER/EMPLOYER: silva90
 PROJECT: 3MRP
 SAMPLE PRESERVATION/AMT of REAGENT: NA
 PURGE VOL/EXCESS H2O DEST: 43.38 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —SAMPLE ID (VERIFY): W-7ES/3VES TIME COLLECTED: 1440

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|------------------|----------------------------|--------------|---------------------|-----------------|
| BB | W-7ES | S3ANIONS | 1 | 250 ml P | |
| BB | W-7ES | S3METALS | 1 | 500ml P | |
| BB | W-7ES | S3METALS+FIETER | 0 | — | |
| BB | W-7ES | S3WETCHEM | 2 | 500ml P | |
| AA | W-7ES | SM9221 | 1 | 250 ml P | |

Evacuated all CL from well



All Ground Water Sampling Data

Target Sample Date: 11-DEC-2019

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: W-7ES AREA INFO: S300/GSA/CGSADATE: 11-Dec-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40042PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: NO3-11SCREENED INTERVAL (ft-bmp): 18.30 - 28.30 PUMP INTAKE DEPTH: 26.30CASING DEPTH(installed/sounded)(ft-bmp): 26.80 / 30.10 on 21-JAN-87 CASING VOL (Gal/Time): 10.96 11.3 300DEPTH TO WATER(ft-bmp): 16.54 on 23-OCT-19 16.5 VOLUME FACTOR: 0.826 33.96WATER IN CASING (ft): 13.26 13.65 CASING DIAMETER/TCASING HT(in): 4.5 / 3.00TIME PUMP ON: 0953 INITIAL FLOW RATE (Q=GPM): 2.2TIME PUMP OFF: 1019 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

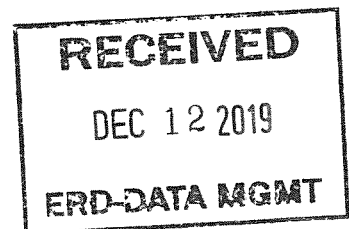
| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|----|----|-------|
| 0958 | | 11.3 | 1 | 7.32 | 21.2 | 1453 | 53 | 1 | 13.80 |
| 1003 | | 22.6 | 2 | 7.34 | 21.2 | 1450 | 50 | 1 | 13.83 |
| 1009 | | 33.9 | 3 | 7.31 | 21.3 | 1447 | 47 | 1 | 13.90 |
| 1011 | | | | 7.31 | 21.3 | 1440 | 45 | | |
| 1013 | | | | 7.30 | 21.3 | 1444 | 41 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # 610084 CALIBRATED
 pH : YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

SAMPLER/EMPLOYER: silva90
 PROJECT: 3EMG 3CMP
 SAMPLE PRESERVATION/AMT of REAGENT: mt
 PURGE VOL/EXCESS H2O DEST: 32.87 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: W-76Y QC LAB(S): ALPHAANAL, BCLABS-BAK QC SAMPLE TIME: 1422SAMPLE ID (VERIFY): W-7ES / 3045 TIME COLLECTED: 1019

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|---------------|------------------|--------------------|--------------|---------------------|-----------------|
| BB | W-7ES | E300.0:NO3 | 1 | 250 ml P | |
| BB | W-76Y | E300.0:NO3 | 1 | 250 ml P | |
| BB | W-76Y | E624MOD | 3 | 40 mL V | |
| BB | W-7ES | E624MOD | 3 | 40 mL V | |
| BB | W-76Y | SM2510B | 1 | 250 ml P | |
| BB | W-76Y | SM2510B | 1 | 250 ml P | |
| BB | W-7ES | SM4500PH | 1 | 250 ml P | |
| BB | W-76Y | SM4500PH | 1 | 250 ml P | |
| AA | W-7ES | SM9221 | 1 | 250 ml P | |
| AA | W-76Y | SM9221 | 1 | 250 ml P | |



Added 02 of CL

All Ground Water Sampling Data

Target Sample Date: 09-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-7PS AREA INFO: S300/GSA/CGSADATE: 09-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40003PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-3/NO3-17SCREENED INTERVAL (ft-bmp): 19.48 - 22.48 INTAKE DEPTH: 0.00CASING DEPTH(installed/sounded)(ft-bmp): 19.50 / 22.48 on 12-APR-94 CASING VOL (Gal/Time): 8.31 6.7X300 =DEPTH TO WATER(ft-bmp): 12.12 on 24-JUL-19 14.42 VOLUME FACTOR: 0.826 20.1 GalWATER IN CASING (ft): 10.06 8.06 CASING DIAMETER/TCASING HT(in): 4.5 / 2.68TIME PUMP ON: 1050 INITIAL FLOW RATE (Q=GPM): .90 QTIME PUMP OFF: 1125 MEASURED BY: FLOW METER GRAD CYL./ BUCKET/ OTHER

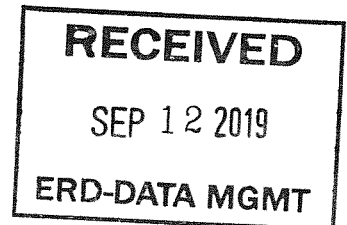
| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|----|----|-------|
| 1058 | | 6.7 | 1 | 7.59 | 24.7 | 1449 | 53 | 1 | 16.54 |
| 1106 | | 13.4 | 2 | 7.59 | 24.7 | 1450 | 38 | 1 | 18.12 |
| 1114 | | 20.1 | 3 | 7.62 | 24.7 | 1458 | 41 | 1 | 19.37 |
| 1126 | | | | 7.60 | 24.6 | 1454 | 37 | | |
| 1118 | | | | 7.57 | 24.6 | 1449 | 33 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # 610084 CALIBRATED
 pH : YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

SAMPLER/EMPLOYER: silva90
 PROJECT: 3MRP
 SAMPLE PRESERVATION/AMT of REAGENT: 10x
 PURGE VOL/EXCESS H2O DEST: 24.93 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: W-75Y EGSAFB QC LAB(S): BCLABS-BAK, ALPHAANAL QC SAMPLE TIME: 1125 1445SAMPLE ID (VERIFY): W-7PS / 3VES TIME COLLECTED: 1125

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | EGSAFB | S3ANIONS | 1 | 250 ml P | |
| BB | W-75Y | S3ANIONS | 1 | 250 ml P | |
| BB | W-7PS | S3ANIONS | 1 | 250 ml P | |
| BB | W-75Y | S3METALS | 1 | 500ml P | |
| BB | EGSAFB | S3METALS | 1 | 500ml P | |
| BB | W-7PS | S3METALS | 1 | 500ml P | |
| BB | W-7PS | S3METALS:FILTER | 0 | O | |
| BB | W-75Y | S3METALS:FILTER | 0 | O | |
| BB | EGSAFB | S3METALS:FILTER | 0 | O | |
| BB | EGSAFB | S3WETCHEM | 2 | 500ml P | |
| BB | W-75Y | S3WETCHEM | 2 | 500ml P | |
| BB | W-7PS | S3WETCHEM | 2 | 500ml P | |
| AA | EGSAFB | SM9221 | 1 | 250 ml P | |
| AA | W-75Y | SM9221 | 1 | 250 ml P | |
| AA | W-7PS | SM9221 | 1 | 250 ml P | |



Added on of CL

NOTE:

Purge rate/time: N/A since est_sus_flow = 0

Purge Volume: 23.7900009 gal.

Revision: 10/28/2015

All Ground Water Sampling Data

Target Sample Date: 10-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-7PS AREA INFO: S300/GSA/CGSA

DATE: 10-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40003-4

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-3/NO3-17

SCREENED INTERVAL (ft-bmp): 19.48 - 22.48 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 19.50 / 22.48 on 12-APR-94 CASING VOL (Gal/Time): 8.31 6.7 x 300

DEPTH TO WATER(ft-bmp): 12.12 on 24-JUL-19 14.40 VOLUME FACTOR: 0.826 = 20.1

WATER IN CASING (ft): 10.06 8.08 CASING DIAMETER/TCASING HT(in): 4.5 / 2.68

TIME PUMP ON: 1055 INITIAL FLOW RATE (Q=GPM): 1.90 Q

TIME PUMP OFF: 1129 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1103 | | 67 | 1 | 7.54 | 24.6 | 1433 | 412 | 1 | 16.60 |
| 1111 | | 134 | 2 | 7.58 | 24.6 | 1440 | 379 | 1 | 18.30 |
| 1119 | | 201 | 3 | 7.58 | 24.5 | 1444 | 330 | 1 | 19.41 |
| 1121 | | | | 7.56 | 24.5 | 1441 | 289 | | |
| 1125 | | | | 7.56 | 24.5 | 1443 | 179 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # CALIBRATED
 pH : 660084 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O : YES/NO

SAMPLER/EMPLOYER: silva90
 PROJECT: 3MRP
 SAMPLE PRESERVATION/AMT OF REAGENT: N/A
 PURGE VOL/EXCESS H2O DEST: 24.93 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: EGSAFB W-75Y QC LAB(S): ALPHAANAL, BCLABS-BAK QC SAMPLE TIME: 1401

SAMPLE ID (VERIFY): W-7PS/3285 TIME COLLECTED: 1129

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | EGSAFB | S3ANIONS | 1 | 250-ml P | |
| BB | W-75Y | S3ANIONS | 1 | 250-ml P | |
| BB | W-7PS | S3ANIONS | 1 | 250 ml P | |
| BB | W-75Y | S3METALS | 1 | 500ml P | |
| BB | EGSAFB | S3METALS | 1 | 500ml P | |
| BB | W-7PS | S3METALS | 1 | 500ml P | |
| BB | W-7PS | S3METALS:FILTER | 0 | 0 | |
| BB | W-75Y | S3METALS:FILTER | 0 | 0 | |
| BB | EGSAFB | S3METALS:FILTER | 0 | 0 | |
| BB | EGSAFB | S3WETCHEM | 2 | 500ml P | |
| BB | W-75Y | S3WETCHEM | 2 | 500ml P | |
| BB | W-7PS | S3WETCHEM | 2 | 500ml P | |
| AA | EGSAFB | SM9221 | 1 | 250 ml P | |
| AA | W-75Y | SM9221 | 1 | 250 ml P | |
| AA | W-7PS | SM9221 | 1 | 250 ml P | |

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NOTE:

Purge rate/time: N/A since est_sus_flow = 0

Purge Volume: 23.7900009 gal.

Revision: 10/28/2015

All Ground Water Sampling Data

Target Sample Date: 09-DEC-2019

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: W-7PS AREA INFO: S300/GSA/CGSA

DATE: 09-Dec-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40040

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-3/NO3-17

SCREENED INTERVAL (ft-bmp): 19.48 - 22.48 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 19.50 / 22.48 on 12-APR-94 CASING VOL (Gal/Time): 5.00 4.48302

DEPTH TO WATER(ft-bmp): 16.13 on 23-OCT-19 17.18 VOLUME FACTOR: 0.826 13.261

WATER IN CASING (ft): 6.05 5.30 CASING DIAMETER/TCASING HT(in): 4.5 / 2.68

TIME PUMP ON: 1119 INITIAL FLOW RATE (Q=GPM): .90

TIME PUMP OFF: 1144 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1124 | | 4.4 | 1 | 7.21 | 22.4 | 1451 | 182 | 1 | 18.22 |
| 1129 | | 8.8 | 2 | 7.20 | 22.6 | 1456 | 183 | 1 | 18.57 |
| 1134 | | 13.2 | 3 | 7.25 | 22.9 | 1459 | 200 | 1 | 19.33 |
| 1136 | | | | 7.24 | 22.9 | 1447 | 192 | | |
| 1138 | | | | 7.24 | 22.9 | 1435 | 189 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # CALIBRATED
 pH : 610084 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

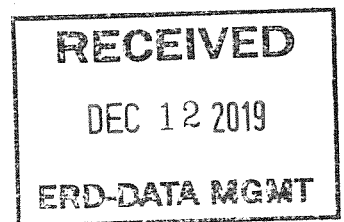
SAMPLER/EMPLOYER: silva90
 PROJECT: 3EMG 3CMP
 SAMPLE PRESERVATION/AMT OF REAGENT:
 PURGE VOL/EXCESS H2O DEST: 15.00 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-7PS / 3045 TIME COLLECTED: 1144

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-7PS | E300.0:NO3 | 1 | 250 ml P | |
| AA | W-7PS | E624MOD | 4 | 40 mL V | |
| BB | W-7PS | SM2510B | 1 | 250 ml P | |
| BB | W-7PS | SM4500PH | 1 | 250 ml P | |
| AA | W-7PS | SM9221 | 1 | 250 ml P | |

Added or of CL



NOTE:

Purge rate/time: N/A since est_sus_flow = 0

Purge Volume: 23.7900009 gal.

Revision: 10/28/2015

All Ground Water Sampling Data

Target Sample Date: 10-DEC-2019

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: W-7PS AREA INFO: S300/GSA/CGSA

DATE: 10-Dec-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40040

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: TCE-3/NO3-17

SCREENED INTERVAL (ft-bmp): 19.48 - 22.48 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 19.50 / 22.48 on 12-APR-94 CASING VOL (Gal/Time): 5.00 4.4 x 300 =

DEPTH TO WATER(ft-bmp): 16.13 on 23-OCT-19 17.24 VOLUME FACTOR: 0.826 13.2 gal

WATER IN CASING (ft): 6.05 5.24 CASING DIAMETER/TCASING HT(in): 4.5 / 2.68

TIME PUMP ON: 1125 INITIAL FLOW RATE (Q=GPM): 1.0

TIME PUMP OFF: 1149 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1130 | | 4.4 | 1 | 7.33 | 22.1 | 1446 | 379 | 1 | 18.25 |
| 1135 | | 8.8 | 2 | 7.31 | 22.3 | 1451 | 312 | 1 | 19.00 |
| 1140 | | 13.2 | 3 | 7.30 | 22.4 | 1448 | 280 | 1 | 19.47 |
| 1142 | | | | 7.30 | 22.4 | 1444 | 226 | | |
| 1144 | | | | 7.28 | 22.4 | 1441 | 190 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # CALIBRATED
 pH : 610081 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

SAMPLER/EMPLOYER: silva90
 PROJECT: 3CMP 3EMG
 SAMPLE PRESERVATION/AMT of REAGENT: NA
 PURGE VOL/EXCESS H2O DEST: 15.00 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-7PS / 3045 TIME COLLECTED: 1149

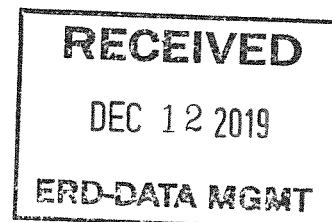
| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-7PS | E300-0-NO3 | 1 | 250 ml P | |
| AA | W-7PS | E624MOD | 4 | 40 ml V | |
| BB | W-7PS | SM2510B | 1 | 250 ml P | |
| BB | W-7PS | SM4500PH | 1 | 250 ml P | |
| AA | W-7PS | SM9221 | 1 | 250 ml P | |

NOTE:

Purge rate/time: N/A since est_sus_flow = 0

Purge Volume: 23.7900009 gal.

Revision: 10/28/2015



All Ground Water Sampling Data

Target Sample Date: 04-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-25N-22 AREA INFO: S300/GSA/EGSA

DATE: 04-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40001

PURGE METHOD/SAMPLE METHOD: Grundfos / 3VES CONTAMINANT PRESENT: TCE-1.2

SCREENED INTERVAL (ft-bmp): 20.80 - 30.80 PUMP INTAKE DEPTH: 31.05

CASING DEPTH(installed/sounded)(ft-bmp): 28.50 / 32.50 on 09-JAN-12 CASING VOL (Gal/Time): 9.01 $8.8 \times 30 =$

DEPTH TO WATER(ft-bmp): 20.09 on 24-JUL-19 2.78 VOLUME FACTOR: 0.826 26.4 Gal

WATER IN CASING (ft): 10.91 10.72 CASING DIAMETER/TCASING HT(in): 4.5 / 2.50

TIME PUMP ON: 0902 INITIAL FLOW RATE (Q=GPM): 1.80 G

TIME PUMP OFF: 0942 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|----|----|-------|
| 0913 | | 8.8 | 1 | 7.80 | 23.8 | 1688 | 86 | 1 | 23.42 |
| 0924 | | 17.6 | 2 | 7.76 | 23.2 | 1720 | 79 | 1 | 24.76 |
| 0935 | | 26.4 | 3 | 7.25 | 23.1 | 1718 | 77 | 1 | 26.21 |
| 0937 | | | | 7.22 | 23.1 | 1720 | 78 | | |
| 0939 | | | | 7.20 | 23.1 | 1715 | 81 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # CALIBRATED
 pH : 610084 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O : YES/NO

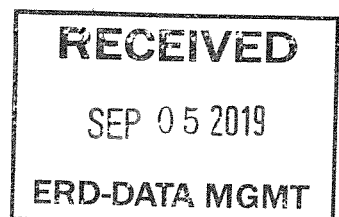
SAMPLER/EMPLOYER: silva90
 PROJECT: 3MRP
 SAMPLE PRESERVATION/AMT of REAGENT: N/A
 PURGE VOL/EXCESS H2O DEST: 27.04 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-25N-22/345 TIME COLLECTED: 0942

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-25N-22 | S3ANIONS | 1 | 250 ml P | |
| BB | W-25N-22 | S3METALS | 1 | 500ml P | |
| BB | W-25N-22 | S3METALS:FILTER | 0 | O | |
| BB | W-25N-22 | S3WETCHEM | 2 | 500ml P | |
| AA | W-25N-22 | SM9221 | 1 | 250 ml P | |

Added or of CL



All Ground Water Sampling Data

Target Sample Date: **04-SEP-2019** Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: **W-25N-23** AREA INFO: **S300/GSA/EGSA**

DATE: **04-Sep-2019** LOG BOOK (DOCUMENT CONTROL) #: **AA40001**

PURGE METHOD/SAMPLE METHOD: **Grundfos / 3VES** CONTAMINANT PRESENT: ***TCE-6.0**

SCREENED INTERVAL (ft-bmp): **21.80 - 36.80** PUMP INTAKE DEPTH: **36.14**

CASING DEPTH(installed/sounded)(ft-bmp): **35.30 / 37.17 on 25-APR-18** CASING VOL (Gal/Time): **16.85** *14.7 x 300 = 44.1 Gal*

DEPTH TO WATER(ft-bmp): **17.40 on 24-JUL-19** *19.40* VOLUME FACTOR: **0.826**

WATER IN CASING (ft): **20.40** *17.77* CASING DIAMETER/TCASING HT(in): **4.5 / 2.50**

TIME PUMP ON: **1019** INITIAL FLOW RATE (Q=GPM): **.85**

TIME PUMP OFF: **1121** MEASURED BY: **FLOW METER** GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|----|----|-------|
| 1036 | | 14.7 | 1 | 7.34 | 25.3 | 1554 | 72 | 1 | 22.13 |
| 1053 | | 29.4 | 2 | 7.31 | 25.2 | 1548 | 69 | 1 | 23.42 |
| 1110 | | 44.1 | 3 | 7.29 | 25.1 | 1544 | 72 | 1 | 23.88 |
| 1112 | | | | 7.29 | 25.1 | 1540 | 72 | | |
| 1114 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # **6100604** CALIBRATED
 pH : YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

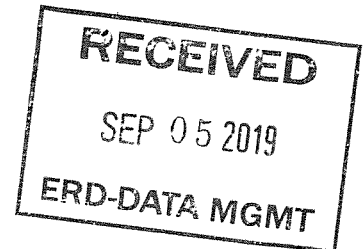
SAMPLER/EMPLOYER: **silva90**
 PROJECT: **3MRP**
 SAMPLE PRESERVATION/AMT of REAGENT: **NA**
 PURGE VOL/EXCESS H2O DEST: **50.56 / S300-DRUM**
 TF LOCATION: **S300**

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): **W-25N-23/3098** TIME COLLECTED: **1121**

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-25N-23 | S3ANIONS | 1 | 250 ml P | |
| BB | W-25N-23 | S3METALS | 1 | 500ml P | |
| BB | W-25N-23 | S3METALS:FILTER | 0 | O | |
| BB | W-25N-23 | S3WETCHEM | 2 | 500ml P | |
| AA | W-25N-23 | SM9221 | 1 | 250 ml P | |

Added to file of CC



All Ground Water Sampling Data

Target Sample Date: **09-SEP-2019** Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: **W-26R-01** AREA INFO: **S300/GSA/EGSA**

DATE: **09-Sep-2019** LOG BOOK (DOCUMENT CONTROL) #: **AA40003**

PURGE METHOD/SAMPLE METHOD: **GF / 3VES** CONTAMINANT PRESENT: ***TCE-15/NO3-40**

SCREENED INTERVAL (ft-bmp): **22.72 - 27.72** PUMP INTAKE DEPTH: **29.00**

CASING DEPTH(installed/sounded)(ft-bmp): **29.80 / 30.00 on 16-NOV-88** CASING VOL (Gal/Time): **14.68 10.8 x 30 =**

DEPTH TO WATER(ft-bmp): **14.70 on 24-JUL-19 16.94** VOLUME FACTOR: **0.826 32.4**

WATER IN CASING (ft): **17.77 13.06** CASING DIAMETER/TCASING HT(in): **4.5 / 2.67**

TIME PUMP ON: **0915** INITIAL FLOW RATE (Q=GPM): **1.0 Q**

TIME PUMP OFF: MEASURED BY: **FLOW METER** / GRAD CYL. / BUCKET / OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|----|----|-------|
| 0926 | | 10.8 | 1 | 7.64 | 22.3 | 1384 | 30 | 1 | 17.12 |
| 0937 | | 21.6 | 2 | 7.60 | 22.3 | 1377 | 33 | 1 | 17.83 |
| 0948 | | 32.4 | 3 | 7.62 | 22.2 | 1389 | 40 | 1 | 17.99 |
| 0950 | | | | 7.60 | 22.1 | 1377 | 39 | 1 | |
| 0952 | | | | 7.58 | 22.1 | 1364 | 37 | 1 | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # CALIBRATED

pH : **06/05/84** YES/NO

SC : YES/NO

mV : YES/NO

H2O: YES/NO

SAMPLER/EMPLOYER: **silva90**

PROJECT: **3MRP**

SAMPLE PRESERVATION/AMT of REAGENT: **NA**

PURGE VOL/EXCESS H2O DEST: **44.04 / TF-834**

TF LOCATION: **834**

QC SAMPLE ID: **CGSAFB W-26R-42Y** QC LAB(S): **ALPHAANAL, BCLABS-BAK** QC SAMPLE TIME: **1412**

SAMPLE ID (VERIFY): **W-26R-01 3045** TIME COLLECTED: **1000**

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|----------------------|--------------------|---|---------------------|-----------------|
| BB | W-26R-01 | S3ANIONS | 1 | 250 ml P | |
| BB | W-26R-42Y | S3ANIONS | 1 | 250 ml P | |
| BB | CGSAFB | S3ANIONS | 1 | 250 ml P | |
| BB | W-26R-42Y | S3METALS | 1 | 500ml P | |
| BB | W-26R-01 | S3METALS | 1 | 500ml P | |
| BB | CGSAFB | S3METALS | 1 | 500ml P | |
| BB | CGSAFB | S3METALS:FILTER | 0 | O | |
| BB | W-26R-42Y | S3METALS:FILTER | 0 | O | |
| BB | W-26R-01 | S3METALS:FILTER | 0 | O | |
| BB | W-26R-01 | S3WETCHEM | 2 | 500ml P | |
| BB | W-26R-42Y | S3WETCHEM | 2 | 500ml P | |
| BB | CGSAFB | S3WETCHEM | 2 | 500ml P | |
| AA | W-26R-01 | SM9221 | 1 | 250 ml P | |
| AA | W-26R-42Y | SM9221 | 1 | 250 ml P | |
| AA | CGSAFB | SM9221 | 1 | 250 ml P | |

RECEIVED

SEP 12 2019

ERD-DATA MGMT

Added 02 of CC

All Ground Water Sampling Data

Target Sample Date: 10-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-26R-01 AREA INFO: S300/GSA/EGSA

DATE: 10-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40003-1

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: *TCE-15/NO3-40

SCREENED INTERVAL (ft-bmp): 22.72 - 27.72 PUMP INTAKE DEPTH: 29.00

CASING DEPTH(installed/sounded)(ft-bmp): 29.80 / 30.00 on 16-NOV-88 CASING VOL (Gal/Time): 14.68 10.8 x 3cu =

DEPTH TO WATER(ft-bmp): 14.70 on 24-JUL-19 16.46 VOLUME FACTOR: 0.826 32.4

WATER IN CASING (ft): 17.77 13.04 CASING DIAMETER/TCASING HT(in): 4.5 / 2.67

TIME PUMP ON: 1003 INITIAL FLOW RATE (Q=GPM): 1.00

TIME PUMP OFF: 1046 MEASURED BY: FLOW METER / GRAD CYL. / BUCKET / OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1019 | | 10.8 | 1 | 7.68 | 22.3 | 1394 | 440 | 1 | 17.19 |
| 1025 | | 21.6 | 2 | 7.64 | 22.3 | 1390 | 375 | 1 | 18.01 |
| 1036 | | 32.4 | 3 | 7.62 | 22.2 | 1385 | 302 | 1 | 18.15 |
| 1038 | | | | 7.60 | 22.2 | 1380 | 281 | | |
| 1040 | | | | 7.63 | 22.2 | 1382 | 222 | | |
| | | | | | | | | | |
| | | | | | | | | | |

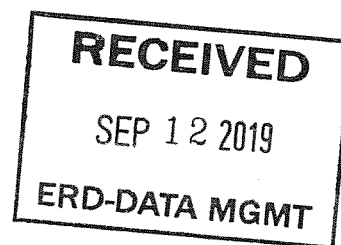
METER SERIAL # CALIBRATED
 pH : 610054 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O : YES/NO

SAMPLER/EMPLOYER: silva90
 PROJECT: 3MRP
 SAMPLE PRESERVATION/AMT of REAGENT: M
 PURGE VOL/EXCESS H2O DEST: 44.04 / TF-834
 TF LOCATION: 834

QC SAMPLE ID: CGSAFB W-26R-42Y QC LAB(S): ALPHAANAL, BCLABS-BAK QC SAMPLE TIME: 1330

SAMPLE ID (VERIFY): W-26R-01/3025 TIME COLLECTED: 1046

| LAB | LAB LOC NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| -BB | W-26R-01 | S3ANIONS | 1 | 250 ml P | |
| -BB | W-26R-42Y | S3ANIONS | 1 | 250 ml P | |
| -BB | CGSAFB | S3ANIONS | 1 | 250 ml P | |
| -BB | W-26R-42Y | S3METALS | 1 | 500ml P | |
| -BB | W-26R-01 | S3METALS | 1 | 500ml P | |
| -BB | CGSAFB | S3METALS | 1 | 500ml P | |
| -BB | CGSAFB | S3METALS:FILTER | 0 | 0 | |
| -BB | W-26R-42Y | S3METALS:FILTER | 0 | 0 | |
| -BB | W-26R-01 | S3METALS:FILTER | 0 | 0 | |
| -BB | W-26R-01 | S3WETCHEM | 2 | 500ml P | |
| -BB | W-26R-42Y | S3WETCHEM | 2 | 500ml P | |
| -BB | CGSAFB | S3WETCHEM | 2 | 500ml P | |
| AA | W-26R-01 | SM9221 | 1 | 250 ml P | |
| AA | W-26R-42Y | SM9221 | 1 | 250 ml P | |
| AA | CGSAFB | SM9221 | 1 | 250 ml P | |



Evacuated all CC from well

All Ground Water Sampling Data

Target Sample Date: **09-DEC-2019**

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: **W-26R-01** AREA INFO: **S300/GSA/EGSA**

DATE: **09-Dec-2019** LOG BOOK (DOCUMENT CONTROL) #: **AA40040**

PURGE METHOD/SAMPLE METHOD: **GF / 3VES** CONTAMINANT PRESENT: ***TCE-15/NO3-40**

SCREENED INTERVAL (ft-bmp): **22.72 - 27.72** PUMP INTAKE DEPTH: **29.00**

CASING DEPTH(installed/sounded)(ft-bmp): **29.80 / 30.00 on 16-NOV-88** CASING VOL (Gal/Time): **11.53 8.9 x 30.2**

DEPTH TO WATER(ft-bmp): **18.52 on 23-OCT-19 19.21** VOLUME FACTOR: **0.826 26.7 cal**

WATER IN CASING (ft): **13.95 10.79** CASING DIAMETER/TCASING HT(in): **4.5 / 2.67**

TIME PUMP ON: **0911** INITIAL FLOW RATE (Q=GPM): **1.00**

TIME PUMP OFF: **0947** MEASURED BY: **FLOW METER** / GRAD CYL. / BUCKET / OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 0920 | | 8.9 | 1 | 7.49 | 20.9 | 1453 | 202 | 1 | 20.01 |
| 0929 | | 17.8 | 2 | 7.51 | 20.9 | 1450 | 187 | 1 | 20.02 |
| 0938 | | 26.7 | 3 | 7.44 | 20.9 | 1444 | 180 | 1 | 20.12 |
| 0940 | | | | 7.39 | 20.8 | 1441 | 184 | | |
| 0942 | | | | 7.41 | 20.9 | 1439 | 188 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # **610081** CALIBRATED
 pH : **YES** / NO
 SC : **YES** / NO
 mV : **YES** / NO
 H2O: **YES** / NO

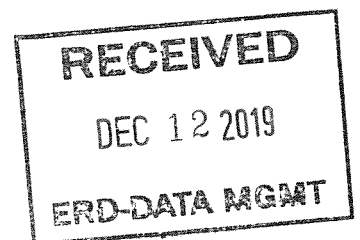
SAMPLER/EMPLOYER: **silva90**
 PROJECT: **3EMG**
 SAMPLE PRESERVATION/AMT OF REAGENT: **MA**
 PURGE VOL/EXCESS H2O DEST: **34.58 / TF-834**
 TF LOCATION: **834**

QC SAMPLE ID: **—** QC LAB(S): **—** QC SAMPLE TIME: **—**

SAMPLE ID (VERIFY): **W-26R-01 / 3045** TIME COLLECTED: **0947**

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|---------------|---------------------|--------------------|--------------|---------------------|-----------------|
| BB | W-26R-01 | E300.0:NO3 | 1 | 250 ml P | |
| BB | W-26R-01 | SM2510B | 1 | 250 ml P | |
| BB | W-26R-01 | SM4500PH | 1 | 250 ml P | |
| AA | W-26R-01 | SM4221 | 1 | 250 ml P | |

Added oz of cc



All Ground Water Sampling Data

Target Sample Date: 10-DEC-2019

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: W-26R-01 AREA INFO: S300/GSA/EGSA

DATE: 10-Dec-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40040

PURGE METHOD/SAMPLE METHOD: GF / 3VES CONTAMINANT PRESENT: *TCE-15/NO3-40

SCREENED INTERVAL (ft-bmp): 22.72 - 27.72 PUMP INTAKE DEPTH: 29.00

CASING DEPTH(installed/sounded)(ft-bmp): 29.80 / 30.00 on 16-NOV-88 CASING VOL (Gal/Time): 11.53 8.9 x 30 =

DEPTH TO WATER(ft-bmp): 18.52 on 23-OCT-19 19.23 VOLUME FACTOR: 0.826 26.72 /

WATER IN CASING (ft): 13.95 10.77 CASING DIAMETER/TCASING HT(in): 4.5 / 2.67

TIME PUMP ON: 0925 INITIAL FLOW RATE (Q=GPM): 1.02

TIME PUMP OFF: 1000 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 0934 | | 8.9 | 1 | 7.44 | 20.7 | 1450 | 479 | 1 | 20.13 |
| 0943 | | 17.8 | 2 | 7.48 | 20.7 | 1444 | 422 | 1 | 20.22 |
| 0952 | | 26.7 | 3 | 7.48 | 20.7 | 1451 | 378 | 1 | 20.26 |
| 0954 | | | | 7.46 | 20.8 | 1450 | 299 | | |
| 0956 | | | | 7.45 | 20.7 | 1446 | 254 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # CALIBRATED
 pH : 610084 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

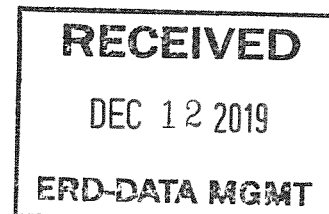
SAMPLER/EMPLOYER: silva90
 PROJECT: 3EMG
 SAMPLE PRESERVATION/AMT of REAGENT: NA
 PURGE VOL/EXCESS H2O DEST: 34.58 / TF-834
 TF LOCATION: 834

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-26R-01 / 3VES TIME COLLECTED: 1000

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-26R-01 | E300.0:NO3 | 1 | 250-ml P | |
| BB | W-26R-01 | SM2510B | 1 | 250-ml P | |
| BB | W-26R-01 | SM4500PH | 1 | 250-ml P | |
| AA | W-26R-01 | SM9221 | 1 | 250 ml P | |

Evacuated all CL from well



All Ground Water Sampling Data

Target Sample Date: 09-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-26R-05 AREA INFO: S300/GSA/EGSADATE: 09-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40003PURGE METHOD/SAMPLE METHOD: PB / 90BA CONTAMINANT PRESENT: TCE-3.3/NO3-53SCREENED INTERVAL (ft-bmp): 22.05 - 27.05 INTAKE DEPTH: 0.00CASING DEPTH(installed/sounded)(ft-bmp): 25.50 / 26.68 on 10-FEB-91 CASING VOL (Gal/Time): 7.20 5.0 gal x 20%DEPTH TO WATER(ft-bmp): 18.28 on 24-JUL-19 20.55 VOLUME FACTOR: 0.826 4.5 GalWATER IN CASING (ft): 8.72 6.13 CASING DIAMETER/TCASING HT(in): 4.5 / 1.50TIME PUMP ON: 1019 INITIAL FLOW RATE (Q=GPM): —TIME PUMP OFF: — MEASURED BY: FLOW METER/ GRAD CYL / BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|------------|-------------|-------------|-------------|-----------|----------|--------------|
| 1019 | | <u>4.5</u> | <u>90%</u> | <u>7.75</u> | <u>21.3</u> | <u>1313</u> | <u>86</u> | <u>1</u> | <u>23.12</u> |
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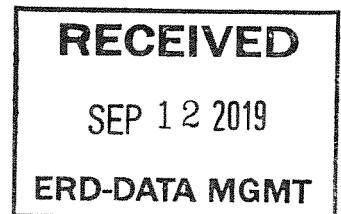
METER SERIAL # CALIBRATED
 pH : 610084 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

SAMPLER/EMPLOYER: silva90
 PROJECT: 3MRP
 SAMPLE PRESERVATION/AMT of REAGENT: NA
 PURGE VOL/EXCESS H2O DEST: 6.48 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: — QC LAB(S): — QC SAMPLE TIME: —SAMPLE ID (VERIFY): W-26R-05/90BA TIME COLLECTED: 1033

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|---------------|---------------------|--------------------|--------------|---------------------|-----------------|
| BB | W-26R-05 | S3ANIONS | 1 | 250 ml P | |
| BB | W-26R-05 | S3METALS | 1 | 500ml P | |
| BB | W-26R-05 | S3METALS:FILTER | 0 | O | |
| BB | W-26R-05 | S3WETCHEM | 2 | 500ml P | |
| AA | W-26R-05 | SM9221 | 1 | 250 ml P | |

Added ocl to well



NOTE:

Purge rate/time: N/A since est_sus_flow = 0

Purge Volume: 10 gal.

Revision: 10/28/2015

All Ground Water Sampling Data

Target Sample Date: **12-SEP-2019**

Month: Norm Qtr: **3** Norm Year: **2019**

WELL ID: **W-26R-05** AREA INFO: **S300/GSA/EGSA**

DATE: **12-Sep-2019** LOG BOOK (DOCUMENT CONTROL) #: **AA40003**

PURGE METHOD/SAMPLE METHOD: **PB / 90BA** CONTAMINANT PRESENT: **TCE-3.3/NO3-53**

SCREENED INTERVAL (ft-bmp): **22.05 - 27.05** INTAKE DEPTH: **0.00**

CASING DEPTH(installed/sounded)(ft-bmp): **25.50 / 26.68 on 10-FEB-91** CASING VOL (Gal/Time): **7.20 2.42 x 90% 2**

DEPTH TO WATER(ft-bmp): **18.28 on 24-JUL-19 24.26** VOLUME FACTOR: **0.826 2.2 Gal**

WATER IN CASING (ft): **8.72 2.42** CASING DIAMETER/TCASING HT(in): **4.5 / 1.50**

TIME PUMP ON: **-** INITIAL FLOW RATE (Q=GPM): **2.2 Gal**

TIME PUMP OFF: **-** MEASURED BY: FLOW METER/ **GRAD CYL.** / BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1125 | | 2.2 | 90% | 7.84 | 23.1 | 1432 | 143 | 1 | 25.87 |
| | | | | | | | | | |
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METER SERIAL # **610084** CALIBRATED
 pH : **YES/NO**
 SC : **YES/NO**
 mV : **YES/NO**
 H2O: **YES/NO**

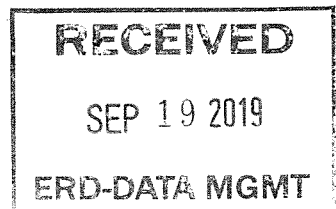
SAMPLER/EMPLOYER: **silva90**
 PROJECT: **3MRP**
 SAMPLE PRESERVATION/AMT OF REAGENT: **NA**
 PURGE VOL/EXCESS H2O DEST: **6.48 / S300-DRUM**
 TF LOCATION: **S300**

QC SAMPLE ID: **-** QC LAB(S): **-** QC SAMPLE TIME: **-**

SAMPLE ID (VERIFY): **W-26R-05/90BA** TIME COLLECTED: **1133**

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|---------------|---------------------|--------------------|--------------|---------------------|-----------------|
| BB | W-26R-05 | SIANIONS | 1 | 250 ml P | |
| BB | W-26R-05 | S3METALS | 1 | 500ml P | |
| BB | W-26R-05 | S3METALS-FILTER | 0 | 0 | |
| BB | W-26R-05 | S3WETCHEM | 2 | 500ml P | |
| AA | W-26R-05 | SM9221 | 1 | 250 ml P | |

Evacuated all CL from well



NOTE:
 Purge rate/time: N/A since est_sus_flow = 0
 Purge Volume: 10 gal.
 Revision: 10/28/2015

All Ground Water Sampling Data

Target Sample Date: 09-DEC-2019

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: W-26R-05 AREA INFO: S300/GSA/EGSA

DATE: 09-Dec-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40040

PURGE METHOD/SAMPLE METHOD: PB / 90BA CONTAMINANT PRESENT: TCE-3.3/NO3-53

SCREENED INTERVAL (ft-bmp): 22.05 - 27.05 INTAKE DEPTH: 0.00

CASING DEPTH(installed/sounded)(ft-bmp): 25.50 / 26.68 on 10-FEB-91 CASING VOL (Gal/Time): 4.35 $4.6 \times 90\% =$ DEPTH TO WATER(ft-bmp): 21.74 on 23-OCT-19 21.09 VOLUME FACTOR: 0.826 4.14 Gal

WATER IN CASING (ft): 5.26 5.59 CASING DIAMETER/TCASING HT(in): 4.5 / 1.50

TIME PUMP ON: INITIAL FLOW RATE (Q=GPM):

TIME PUMP OFF: MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1019 | | 4.1 | 90BA | 7.72 | 18.5 | 1226 | 170 | 1 | 23.89 |
| | | | | | | | | | |
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METER SERIAL # 610081 CALIBRATED
 pH : YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

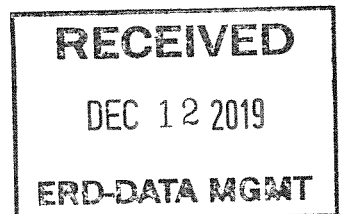
SAMPLER/EMPLOYER: silva90
 PROJECT: 3EMG
 SAMPLE PRESERVATION/AMT of REAGENT: NA
 PURGE VOL/EXCESS H2O DEST: 3.91 / S300-DRUM
 TF LOCATION: S300

QC SAMPLE ID: W-26R-42Y EGSAFB QC LAB(S): BCLABS-BAK, ALPHAANAL QC SAMPLE TIME: 10 1353

SAMPLE ID (VERIFY): W-26R-05 / 90BA TIME COLLECTED: 1023

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|---------------|----------------------|--------------------|--------------|---------------------|-----------------|
| BB | W-26R-42Y | E300.0:NO3 | 1 | 250 ml P | |
| BB | EGSAFB | E300.0:NO3 | 1 | 250 ml P | |
| BB | W-26R-05 | E300.0:NO3 | 1 | 250 ml P | |
| BB | W-26R-05 | SM2510B | 1 | 250 ml P | |
| BB | EGSAFB | SM2510B | 1 | 250 ml P | |
| BB | W-26R-42Y | SM2510B | 1 | 250 ml P | |
| BB | EGSAFB | SM4500PH | 1 | 250 ml P | |
| BB | W-26R-42Y | SM4500PH | 1 | 250 ml P | |
| BB | W-26R-05 | SM4500PH | 1 | 250 ml P | |
| AA | W-26R-42Y | SM9221 | 1 | 250 ml P | |
| AA | EGSAFB | SM9221 | 1 | 250 ml P | |
| AA | W-26R-05 | SM9221 | 1 | 250 ml P | |

Added on of CL



NOTE:

Purge rate/time: N/A since est_sus_flow = 0

Purge Volume: 10 gal.

Revision: 10/28/2015

All Ground Water Sampling Data

Target Sample Date: 04-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-26R-11 AREA INFO: S300/GSA/EGSA

DATE: 04-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40001

PURGE METHOD/SAMPLE METHOD: Grundfos / 3VES CONTAMINANT PRESENT: TCE-1.6/NO3-14

SCREENED INTERVAL (ft-bmp): 18.08 - 28.08 PUMP INTAKE DEPTH: 31.08

CASING DEPTH(installed/sounded)(ft-bmp): 27.00 / 29.28 on 01-MAR-18 CASING VOL (Gal/Time): 14.16

DEPTH TO WATER(ft-bmp): 11.84 on 24-JUL-19 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 17.14 CASING DIAMETER/TCASING HT(in): 4.5 / 1.98

TIME PUMP ON: INITIAL FLOW RATE (Q=GPM):

TIME PUMP OFF: MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|----|--------|----|----|----|-----|
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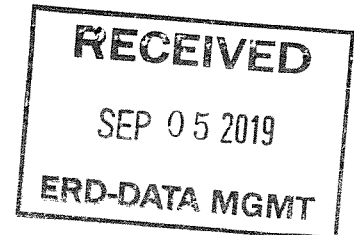
METER SERIAL # CALIBRATED SAMPLER/EMPLOYER: silva90
 pH : YES/NO PROJECT: 3MRP
 SC : YES/NO SAMPLE PRESERVATION/AMT of REAGENT:
 mV : YES/NO PURGE VOL/EXCESS H2O DEST: 42.48 / S300-DRUM
 H2O: YES/NO TF LOCATION: S300

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): TIME COLLECTED:

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-26R-11 | S3ANIONS | 1 | 250 ml P | |
| BB | W-26R-11 | S3METALS | 1 | 500ml P | |
| BB | W-26R-11 | S3METALS:FILTER | 0 | O | |
| BB | W-26R-11 | S3WETCHEM | 2 | 500ml P | |
| AA | W-26R-11 | SM9221 | 1 | 250 ml P | |

Well still needs repair



All Ground Water Sampling Data

Target Sample Date: 09-DEC-2019

Month: Norm Qtr: 4 Norm Year: 2019

WELL ID: W-26R-11 AREA INFO: S300/GSA/EGSA

DATE: 09-Dec-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40040

PURGE METHOD/SAMPLE METHOD: Grundfos / 3VES CONTAMINANT PRESENT: TCE-1.6/NO3-14

SCREENED INTERVAL (ft-bmp): 18.08 - 28.08 PUMP INTAKE DEPTH: 31.08

CASING DEPTH(installed/sounded)(ft-bmp): 27.00 / 29.28 on 01-MAR-18 CASING VOL (Gal/Time): 10.96

DEPTH TO WATER(ft-bmp): 15.72 on 23-OCT-19 VOLUME FACTOR: 0.826

WATER IN CASING (ft): 13.26 CASING DIAMETER/TCASING HT(in): 4.5 / 1.98

TIME PUMP ON: INITIAL FLOW RATE (Q=GPM):

TIME PUMP OFF: MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|----|--------|----|----|----|-----|
| | | | | | | | | | |
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METER SERIAL # CALIBRATED SAMPLER/EMPLOYER: silva90
pH : YES/NO PROJECT: 3EMG 3GIV
SC : YES/NO SAMPLE PRESERVATION/AMT OF REAGENT:
mV : YES/NO PURGE VOL/EXCESS H2O DEST: 32.87 / S300-DRUM
H2O: YES/NO TF LOCATION: S300

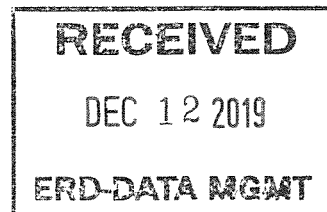
QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): TIME COLLECTED:

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-26R-11 | E300.0:NO3 | 1 | 250 ml P | |
| BB | W-26R-11 | E624MOD | 3 | 40 mL V | |
| BB | W-26R-11 | SM2510B | 1 | 250 ml P | |
| BB | W-26R-11 | SM4500PH | 1 | 250 ml P | |
| AA | W-26R-11 | SM9221 | 1 | 250 ml P | |

Pump inoperable

No samples



All Ground Water Sampling Data

Target Sample Date: 18-SEP-2019

Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: W-35A-04 AREA INFO: S300/GSA/CGSA

DATE: 18-Sep-2019 LOG BOOK (DOCUMENT CONTROL) #: AA40008

PURGE METHOD/SAMPLE METHOD: Grunfos / 3VES CONTAMINANT PRESENT: ND

SCREENED INTERVAL (ft-bmp): 19.30 - 29.30 PUMP INTAKE DEPTH: 26.28

CASING DEPTH(installed/sounded)(ft-bmp): 29.00 / 28.57 on 14-DEC-09 CASING VOL (Gal/Time): 17.10 15X30

DEPTH TO WATER(ft-bmp): 8.30 on 07-AUG-19 10.44 VOLUME FACTOR: 0.826 456

WATER IN CASING (ft): 20.70 18.13 CASING DIAMETER/TCASING HT(in): 4.5 / 0.00

TIME PUMP ON: 1019 INITIAL FLOW RATE (Q=GPM): 1.2

TIME PUMP OFF: 1107 MEASURED BY: FLOW METER/ GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1032 | | 15 | 1 | 7.36 | 22.8 | 1463 | 111 | 1 | 10.52 |
| 1045 | | 30 | 2 | 7.32 | 23.0 | 1460 | 79 | 1 | 11.02 |
| 1058 | | 45 | 3 | 7.31 | 23.0 | 1460 | 82 | 1 | 11.09 |
| 1100 | | | | 7.31 | 23.0 | 1455 | 77 | 1 | |
| 1102 | | | | 7.30 | 23.0 | 1451 | 75 | 1 | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # CALIBRATED
 pH : SERIAL # G100564 YES/NO
 SC : YES/NO
 mV : YES/NO
 H2O: YES/NO

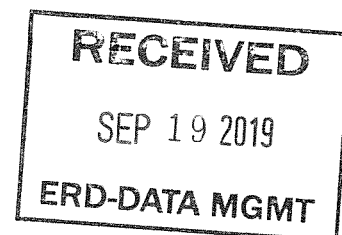
SAMPLER/EMPLOYER: silva90
 PROJECT: 3MRP
 SAMPLE PRESERVATION/AMT of REAGENT: NA
 PURGE VOL/EXCESS H2O DEST: 51.31 / None
 TF LOCATION: Collect

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): W-35A-04/3VES TIME COLLECTED: 1107

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-35A-04 | S3ANIONS | 1 | 250 ml P | |
| BB | W-35A-04 | S3METALS | 1 | 500ml P | |
| BB | W-35A-04 | S3METALS:FILTER | 0 | O | |
| BB | W-35A-04 | S3WETCHEM | 2 | 500ml P | |
| AA | W-35A-04 | SM9221 | 1 | 250 ml P | |

Added 02 of CL



All Ground Water Sampling Data

Target Sample Date: **19-SEP-2019** Month: Norm Qtr: 3 Norm Year: 2019

WELL ID: **W-35A-04** AREA INFO: **S300/GSA/CGSA**

DATE: **19-Sep-2019** LOG BOOK (DOCUMENT CONTROL) #: **AA40008-9**

PURGE METHOD/SAMPLE METHOD: **Grunfos / 3VES** CONTAMINANT PRESENT: **ND**

SCREENED INTERVAL (ft-bmp): **19.30 - 29.30** PUMP INTAKE DEPTH: **26.28**

CASING DEPTH(installed/sounded)(ft-bmp): **29.00 / 28.57 on 14-DEC-09** CASING VOL (Gal/Time): **17.10 15 x 30 = 45 Gal**

DEPTH TO WATER(ft-bmp): **8.30 on 07-AUG-19 10.44** VOLUME FACTOR: **0.826**

WATER IN CASING (ft): **20.70 18.13** CASING DIAMETER/TCASING HT(in): **4.5 / 0.00**

TIME PUMP ON: **1037** INITIAL FLOW RATE (Q=GPM): **1.2 Gal**

TIME PUMP OFF: **1120** MEASURED BY: **FLOW METER** GRAD CYL./ BUCKET/ OTHER

| TIME | Q | GAL PURGED | VOLUMES | pH | TEMP C | SC | mV | OG | DTW |
|------|---|------------|---------|------|--------|------|-----|----|-------|
| 1046 | | 15 | 1 | 7.33 | 22.7 | 1460 | 321 | 1 | 10.55 |
| 1059 | | 30 | 2 | 7.31 | 22.8 | 1455 | 303 | 1 | 11.17 |
| 1112 | | 45 | 3 | 7.30 | 22.8 | 1451 | 277 | 1 | 11.33 |
| 1114 | | | | 7.32 | 22.8 | 1456 | 212 | | |
| 1116 | | | | 7.30 | 22.8 | 1457 | 189 | | |
| | | | | | | | | | |
| | | | | | | | | | |

METER SERIAL # **610084** CALIBRATED YES/NO

pH : YES/NO

SC : YES/NO

mV : YES/NO

H2O: YES/NO

SAMPLER/EMPLOYER: **silva90**

PROJECT: **3MRP**

SAMPLE PRESERVATION/AMT of REAGENT: **NA**

PURGE VOL/EXCESS H2O DEST: **51.31 / None**

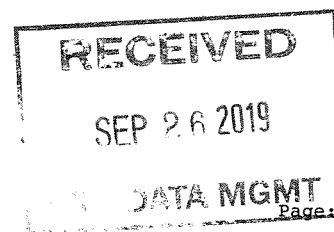
TF LOCATION: **Collect**

QC SAMPLE ID: QC LAB(S): QC SAMPLE TIME:

SAMPLE ID (VERIFY): **W-35A-04 / 304S** TIME COLLECTED: **1120**

| LAB | LAB_LOC_NAME | REQUESTED ANALYSIS | # | TYPE | SAMPLER_REMARKS |
|-----|--------------|--------------------|---|----------|-----------------|
| BB | W-35A-04 | S3ANIONS | 1 | 250 ml P | |
| BB | W-35A-04 | S3METALS | 1 | 500ml P | |
| BB | W-35A-04 | S3METALS:FILTER | 0 | 0 | |
| BB | W-35A-04 | S3WETCHEM | 2 | 500ml P | |
| AA | W-35A-04 | SM9221 | 1 | 250 ml P | |

Evacuated all CL from well

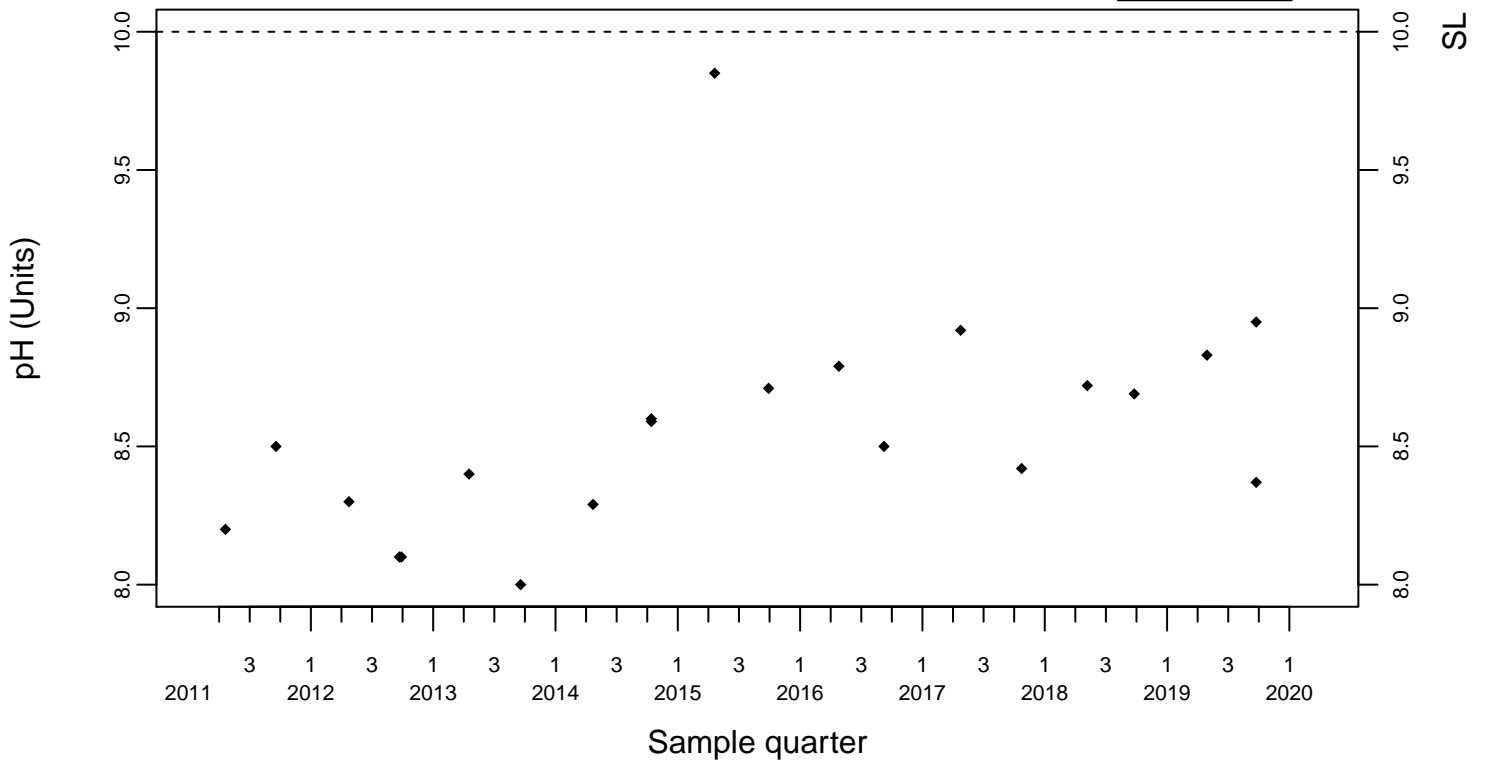


Sewage Ponds Wastewater pH (Units)

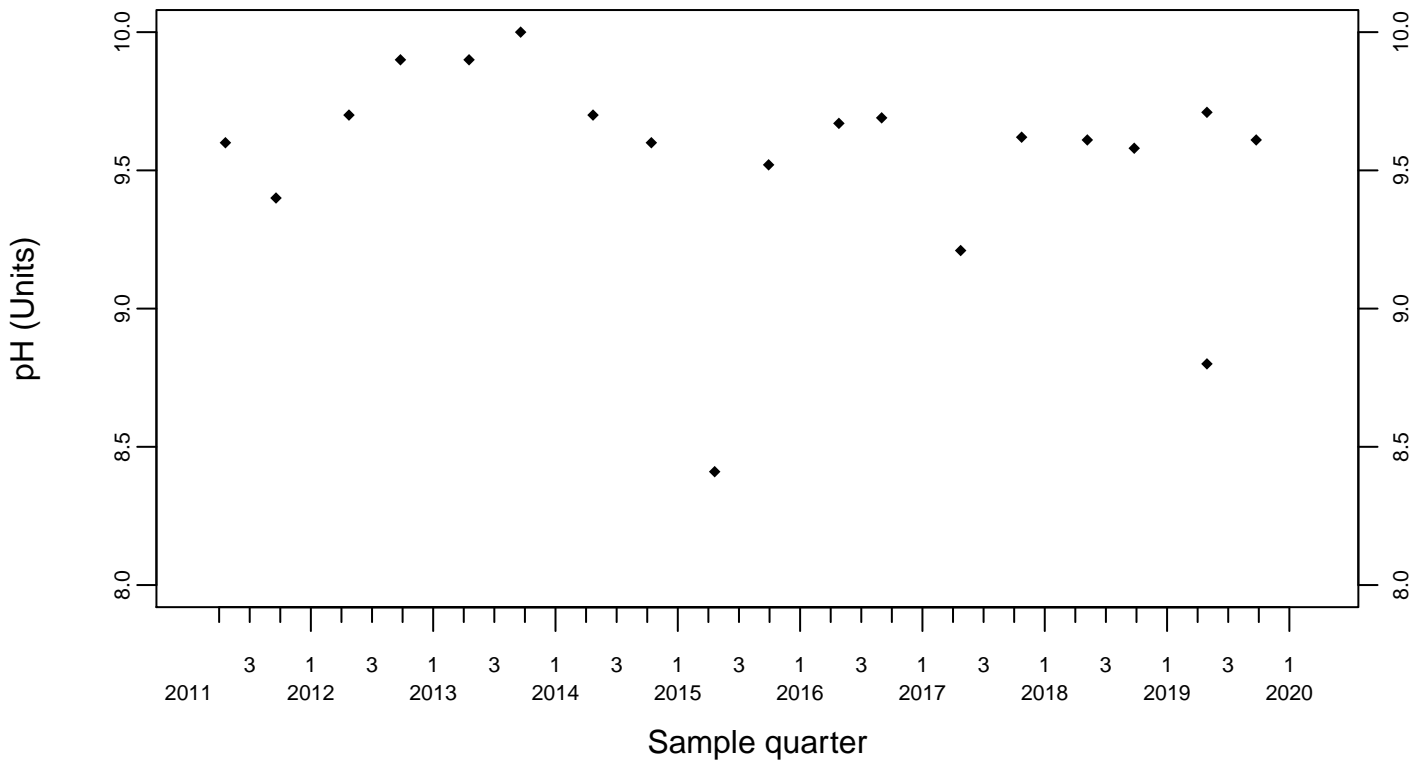
SL=10

Influent 3-ISWP-OW

◆ Above RL
▽ Below RL



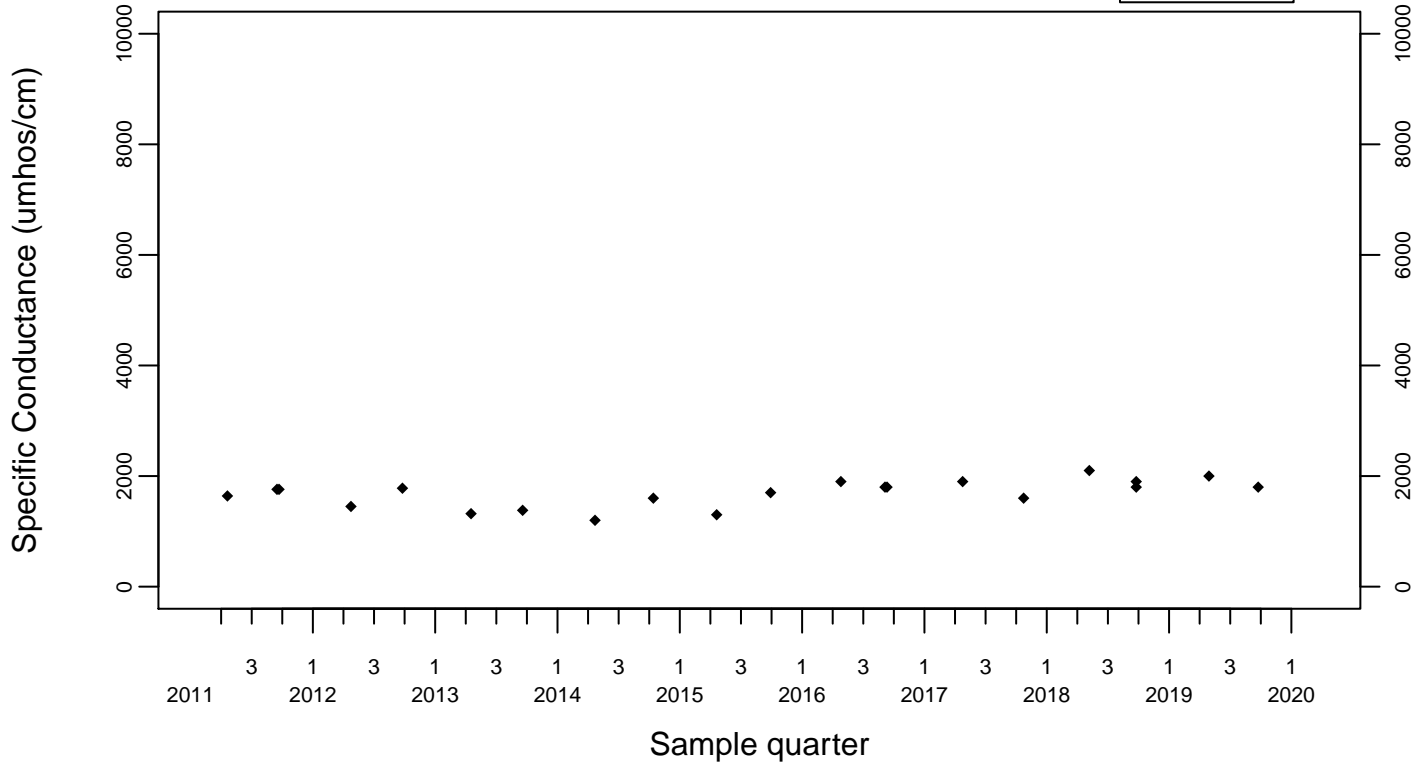
In-pond 3-ESWP-OW



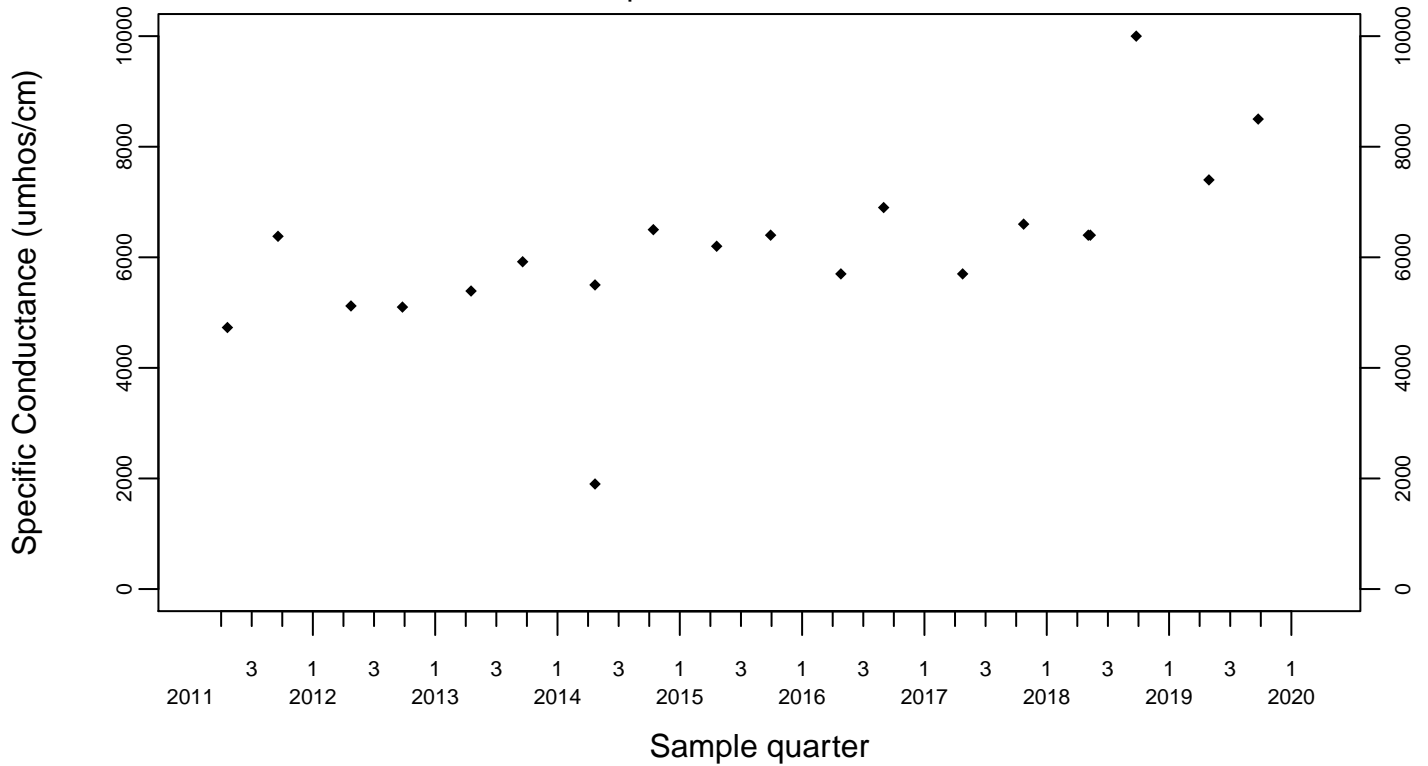
Sewage Ponds Wastewater
Specific Conductance (umhos/cm)

Influent 3-ISWP-OW

◆ Above RL
▽ Below RL



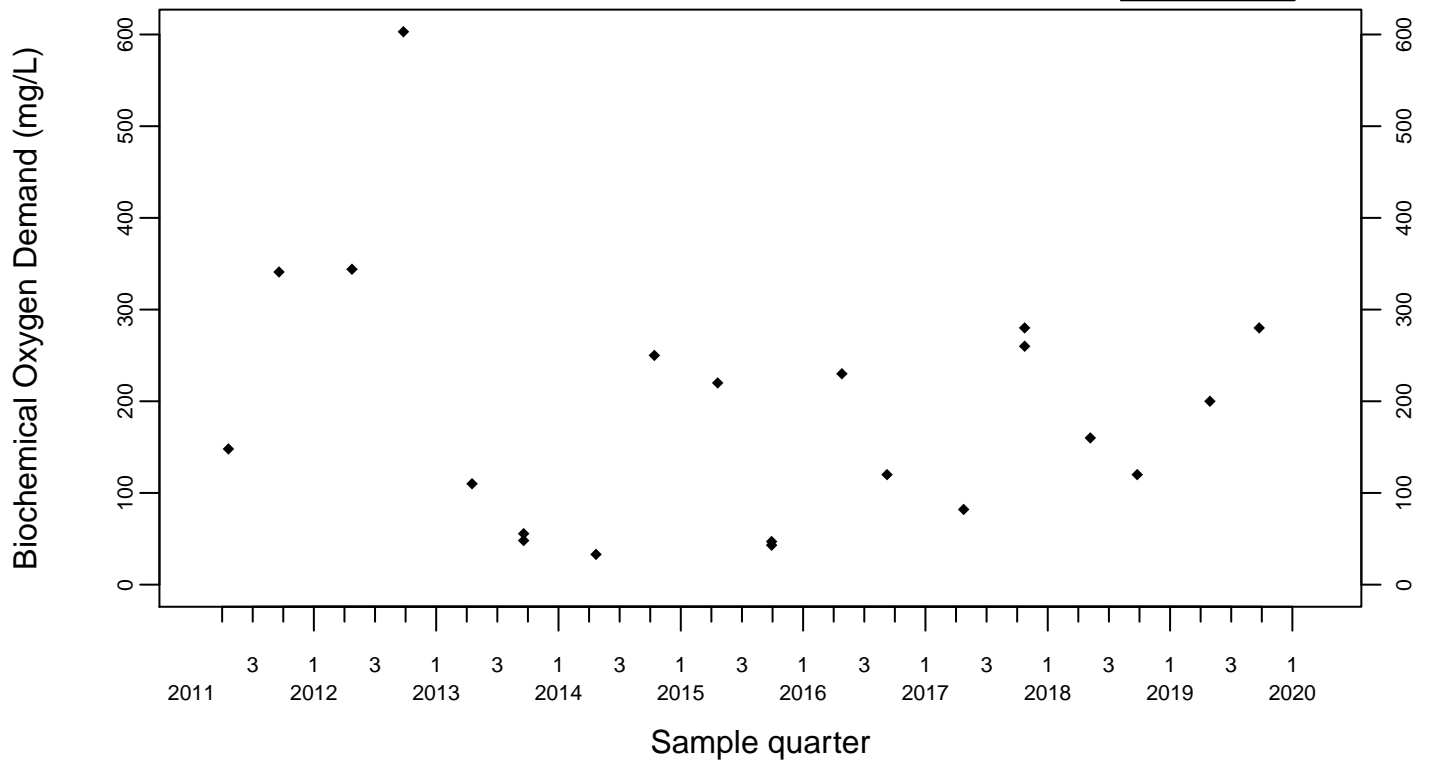
In-pond 3-ESWP-OW



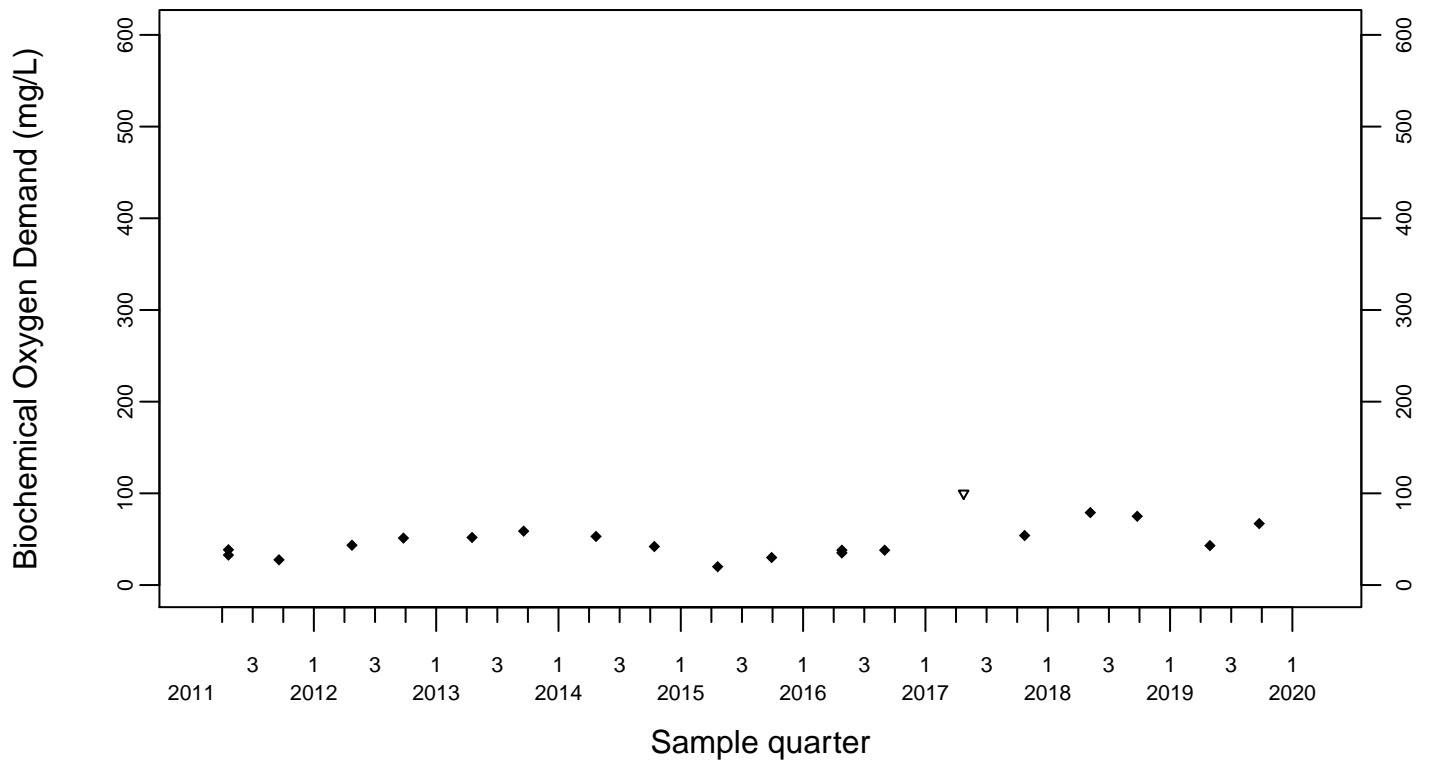
Sewage Ponds Wastewater
Biochemical Oxygen Demand (mg/L)

Influent 3-ISWP-OW

◆ Above RL
▽ Below RL



In-pond 3-ESWP-OW

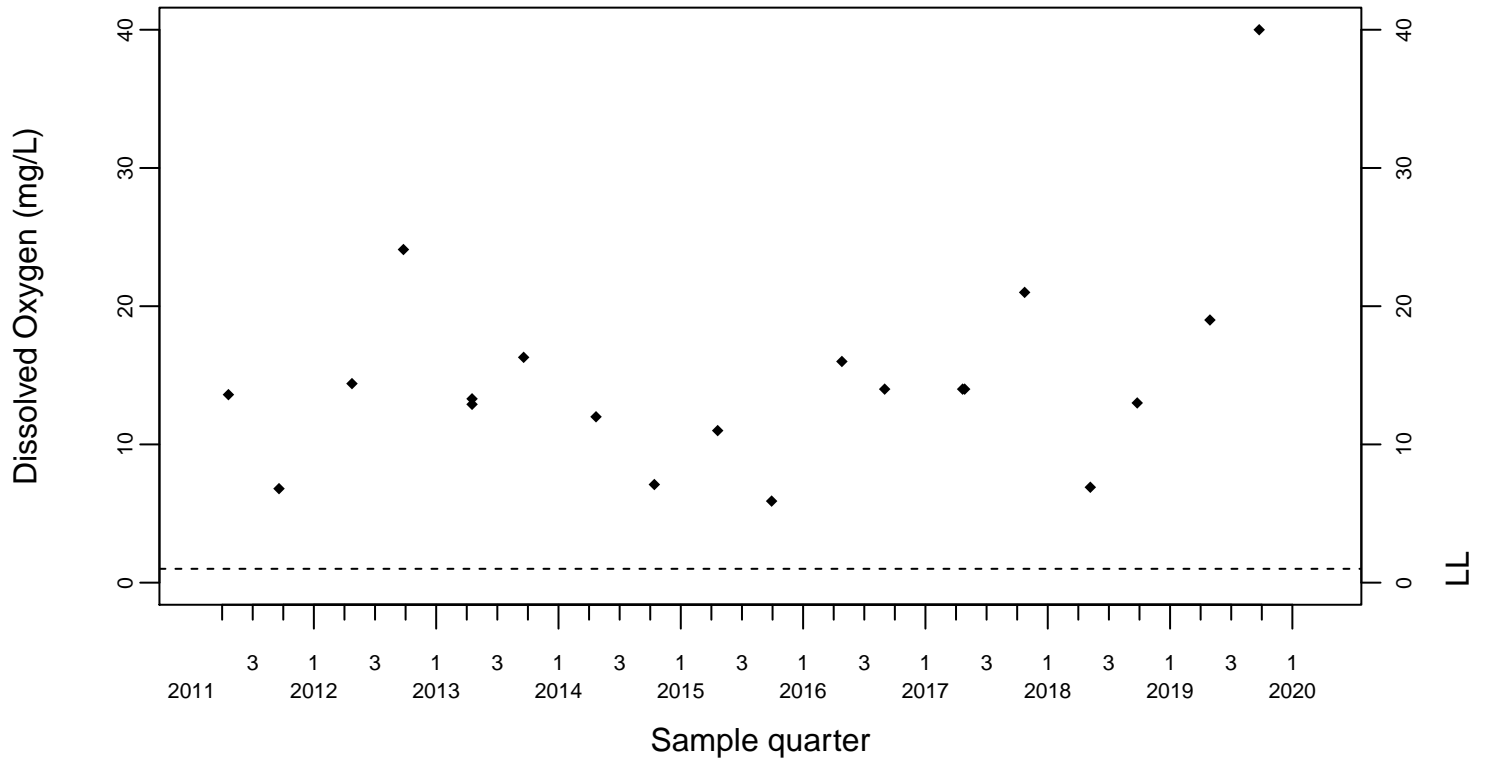


Sewage Ponds Wastewater
Dissolved Oxygen (mg/L)

In-pond 3-ESWP-OW

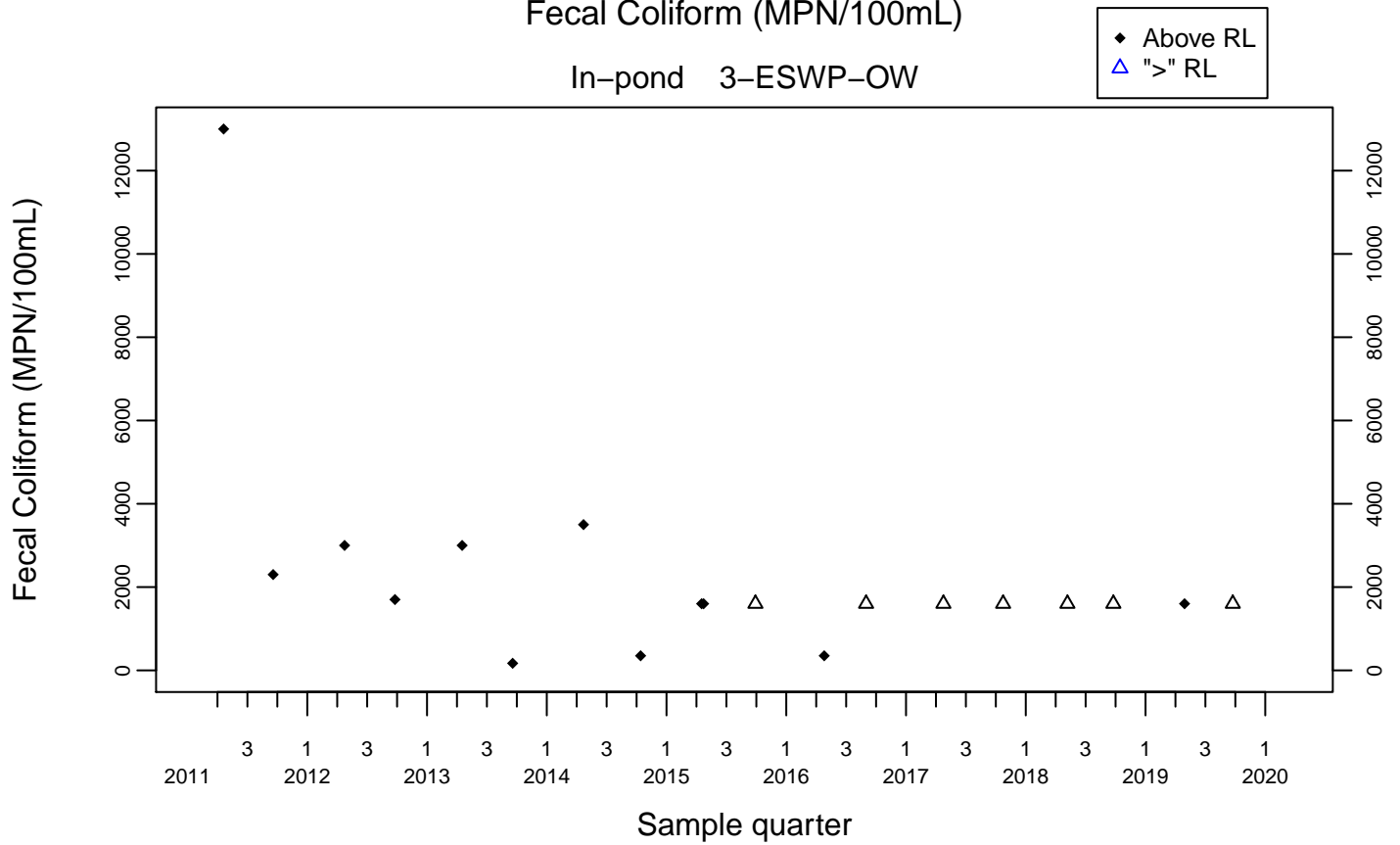
LL=1

◆ Above RL
▽ Below RL



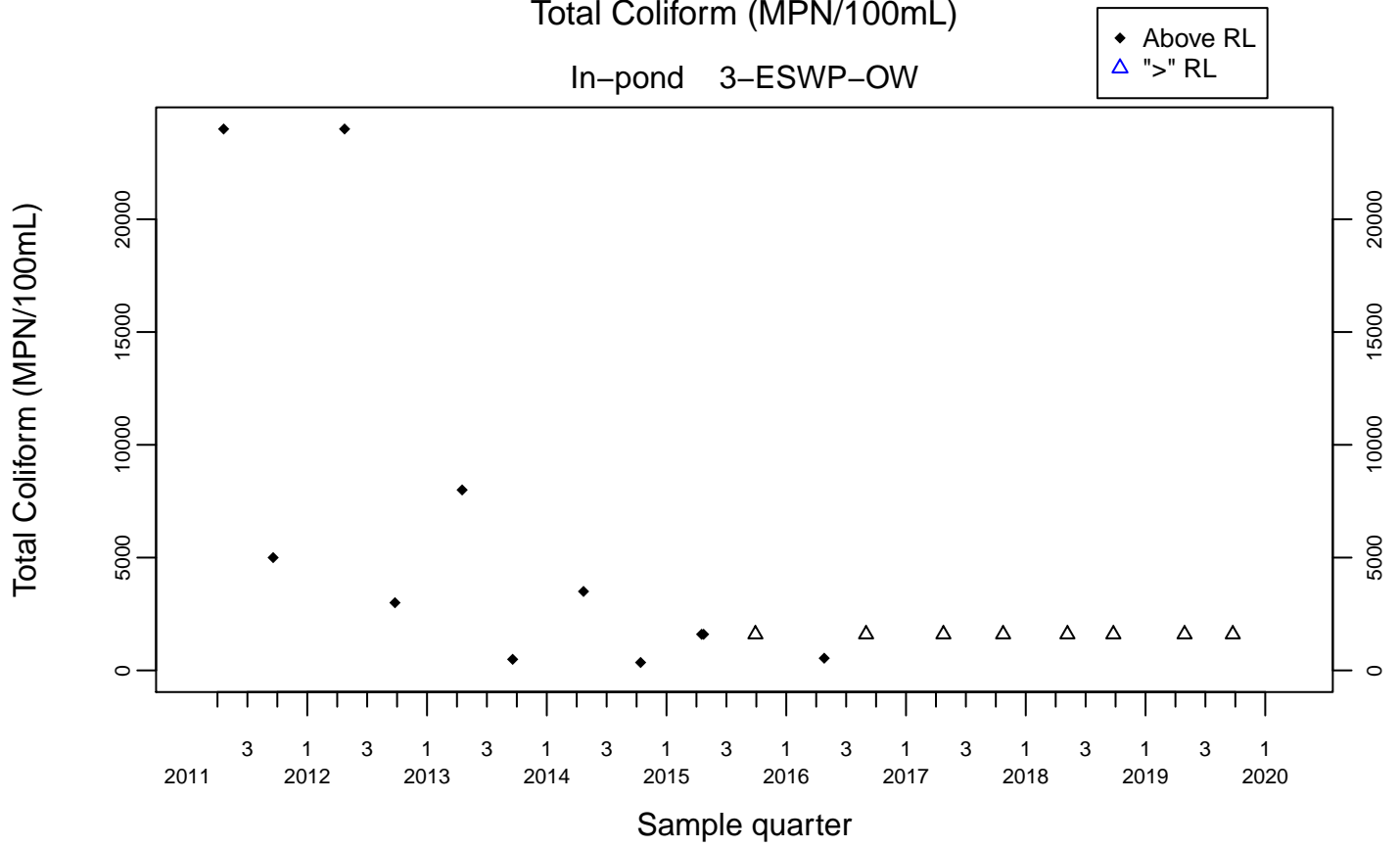
Sewage Ponds Wastewater
Fecal Coliform (MPN/100mL)

In-pond 3-ESWP-OW



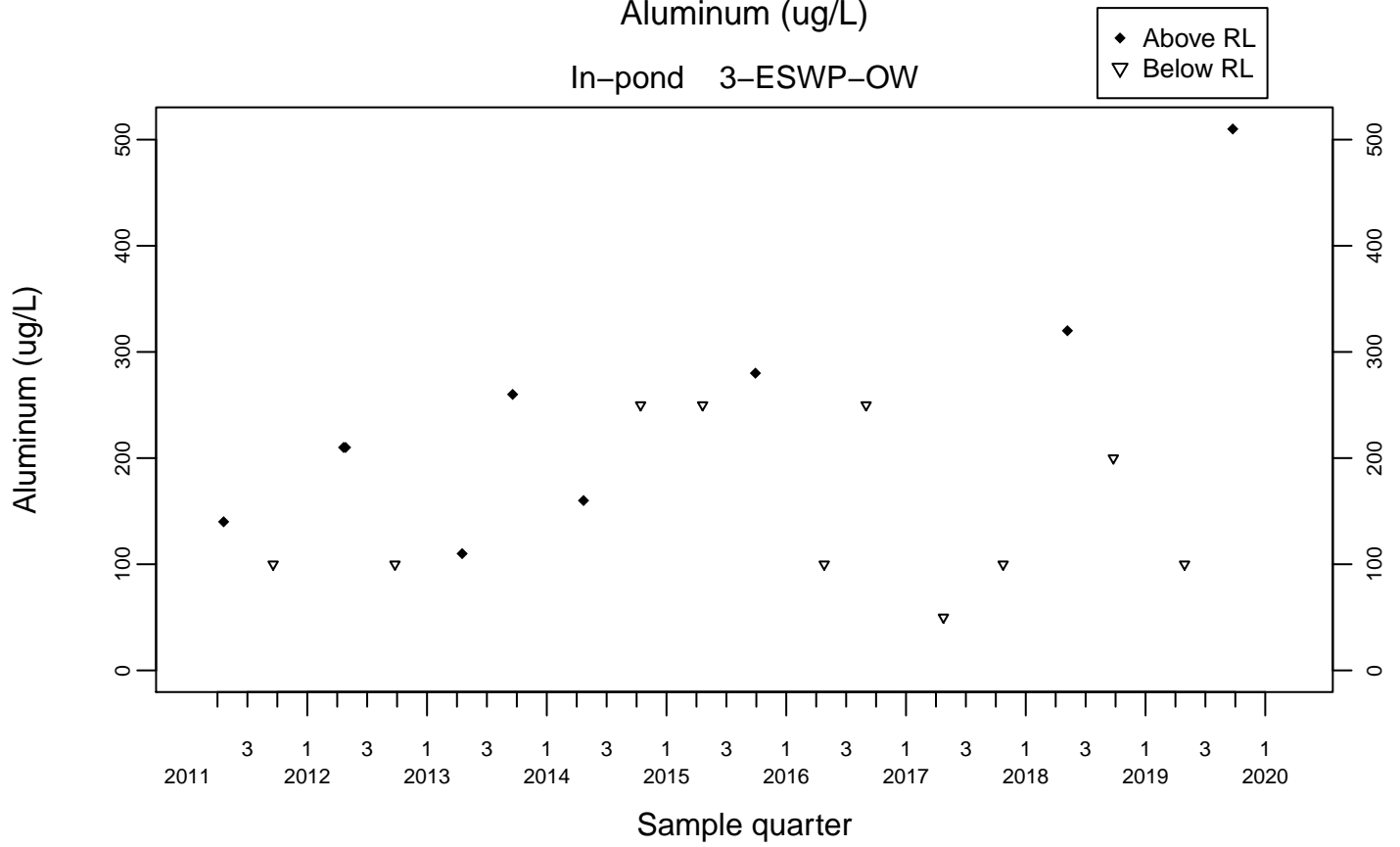
Sewage Ponds Wastewater
Total Coliform (MPN/100mL)

In-pond 3-ESWP-OW



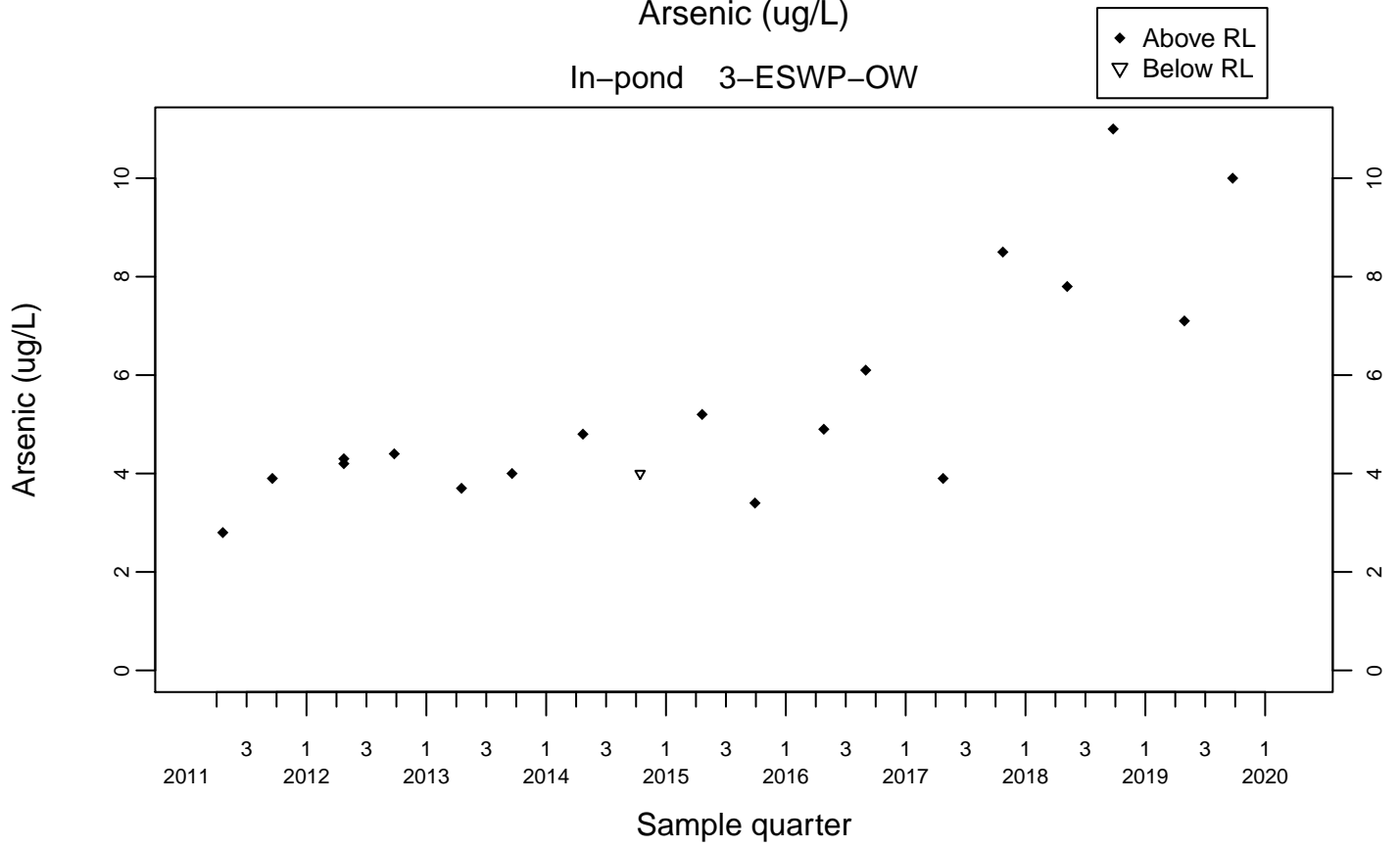
Sewage Ponds Wastewater
Aluminum (ug/L)

In-pond 3-ESWP-OW



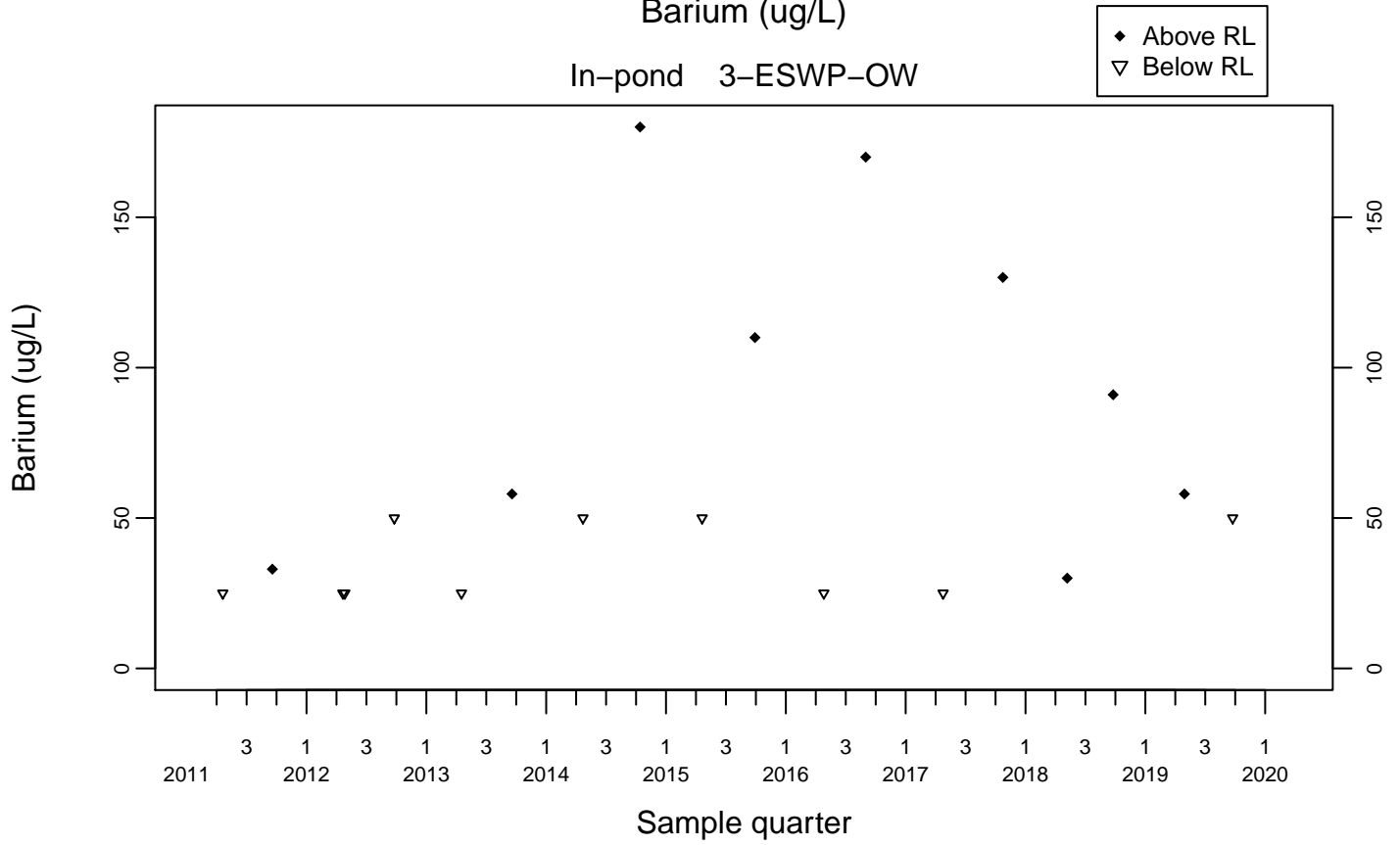
Sewage Ponds Wastewater
Arsenic (ug/L)

In-pond 3-ESWP-OW



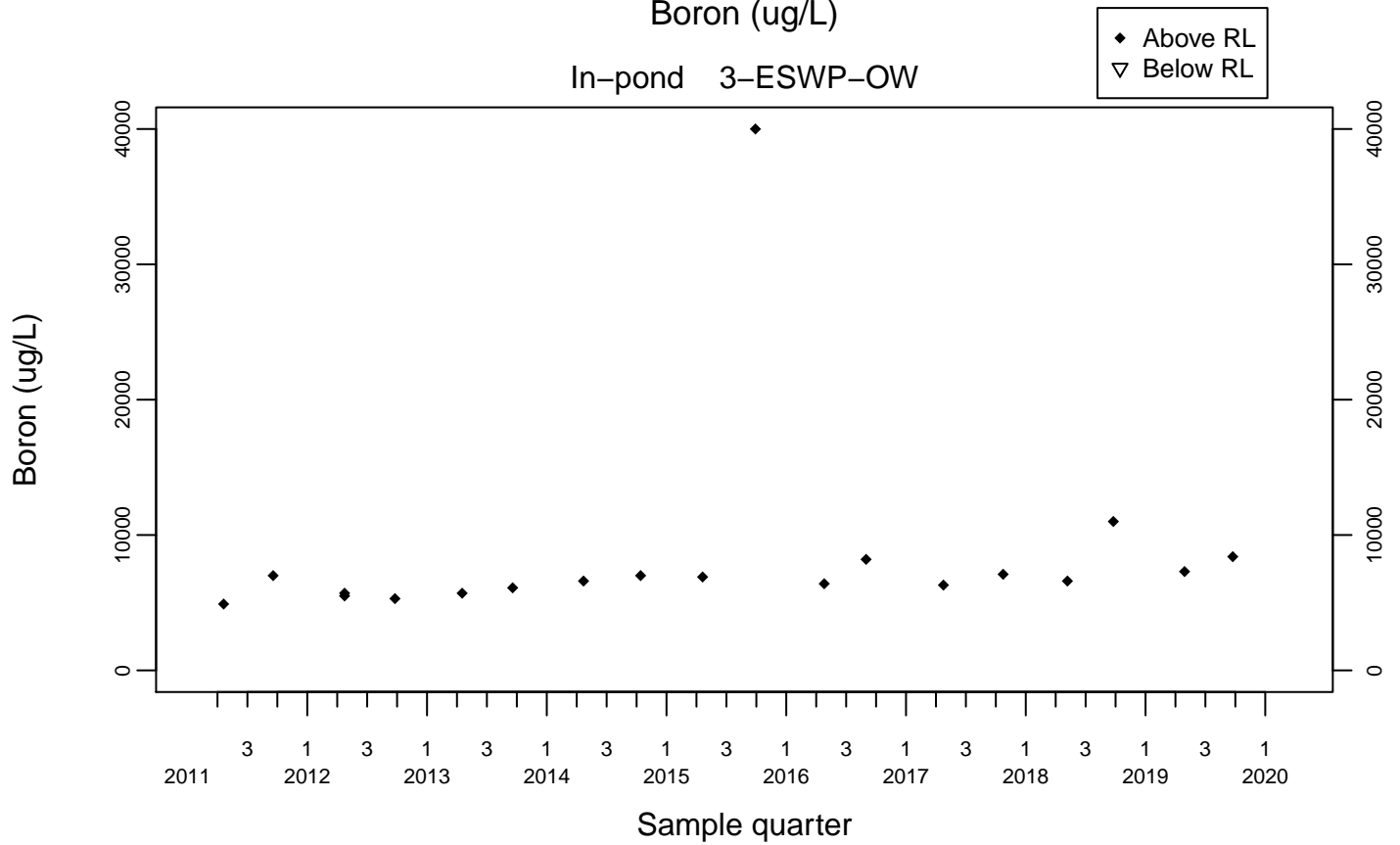
Sewage Ponds Wastewater
Barium (ug/L)

In-pond 3-ESWP-OW



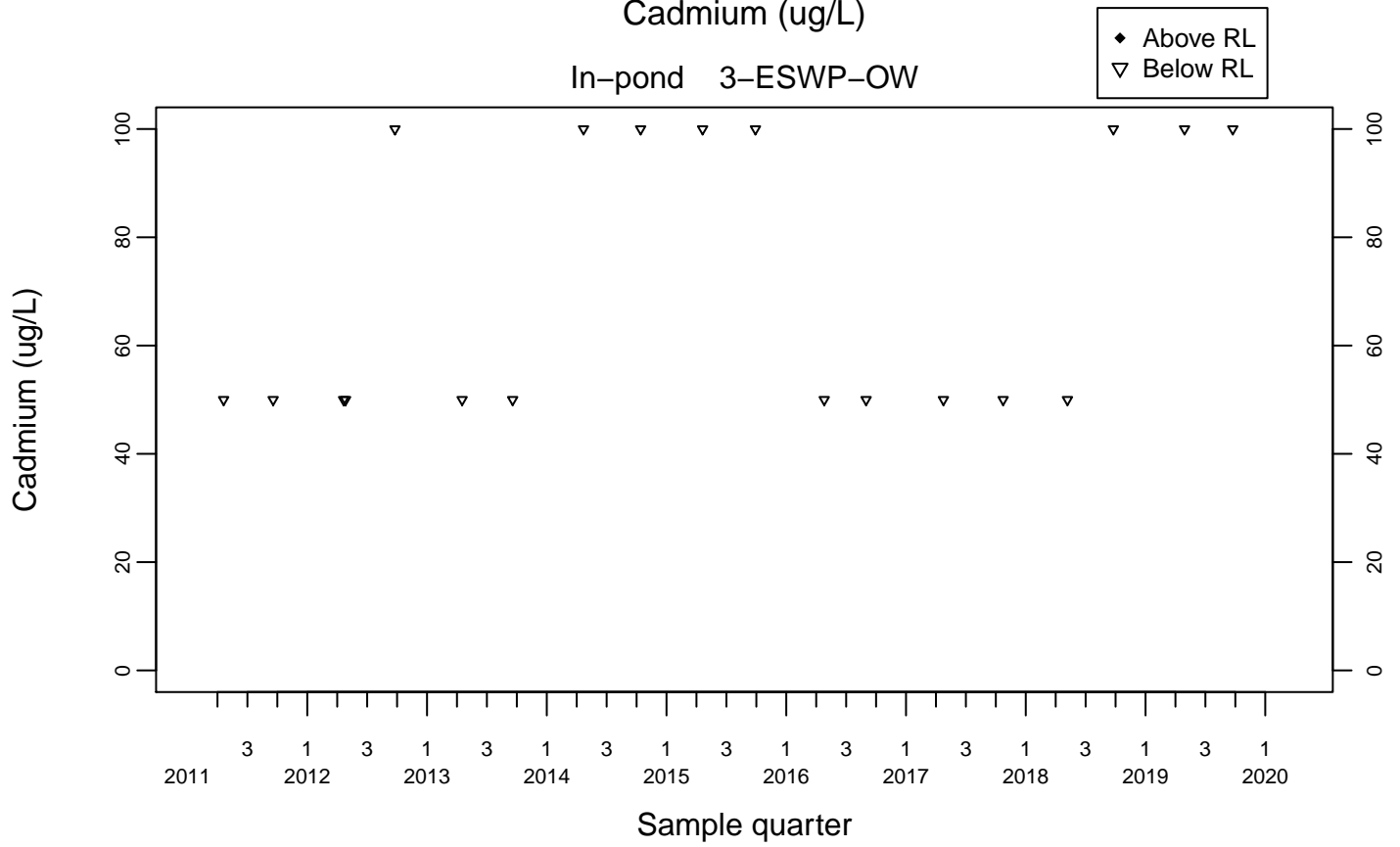
Sewage Ponds Wastewater
Boron (ug/L)

In-pond 3-ESWP-OW



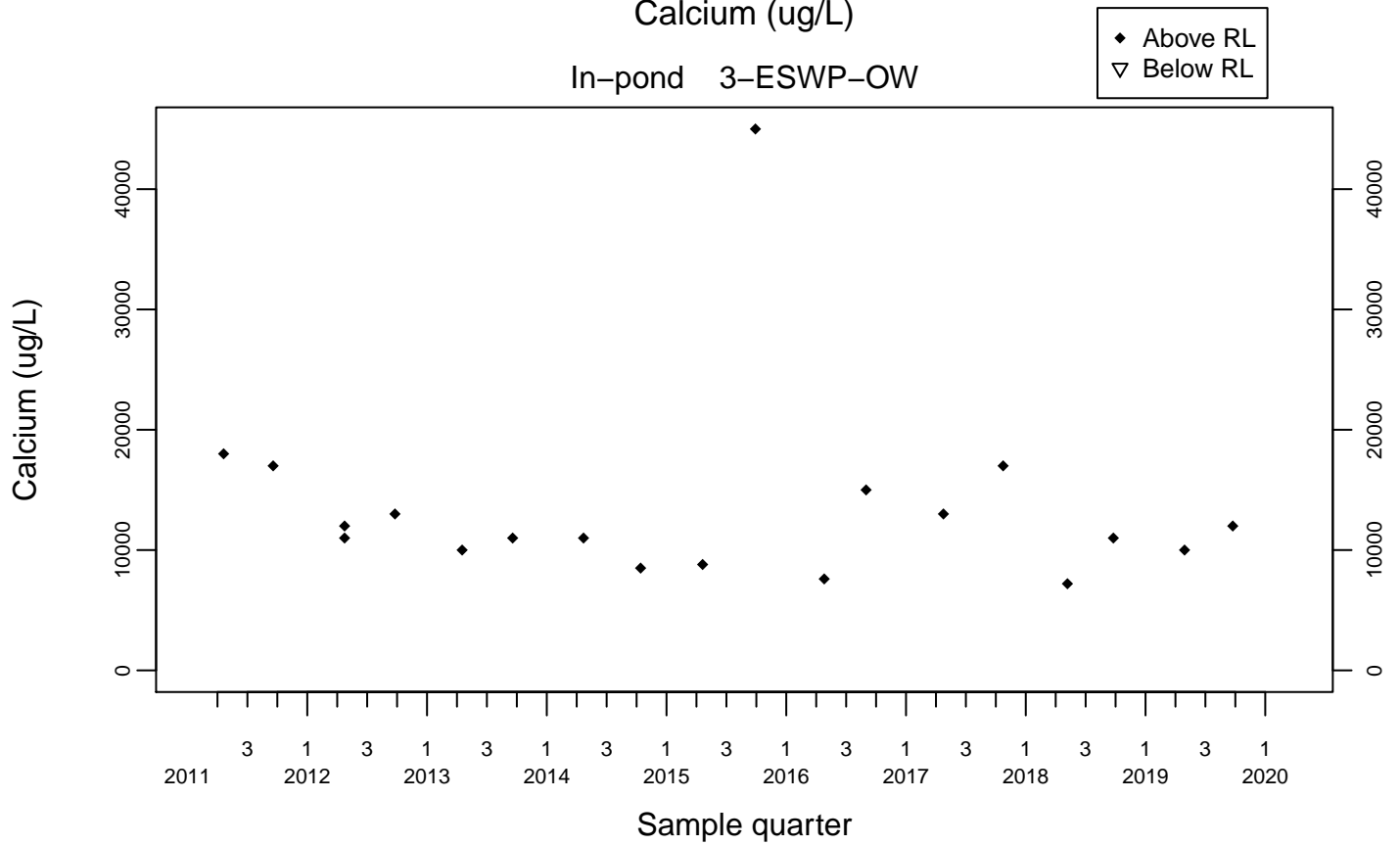
Sewage Ponds Wastewater
Cadmium (ug/L)

In-pond 3-ESWP-OW

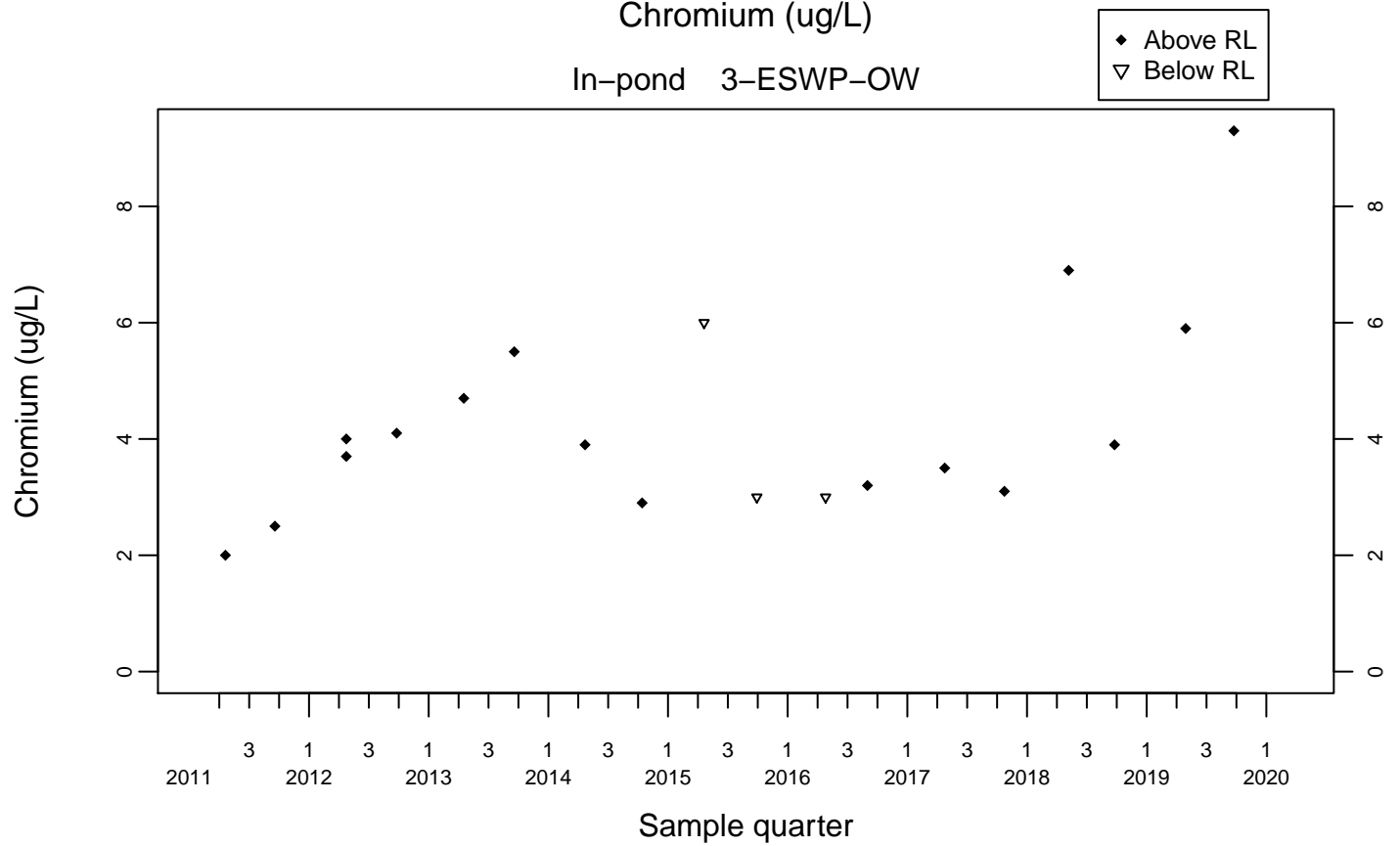


Sewage Ponds Wastewater
Calcium (ug/L)

In-pond 3-ESWP-OW



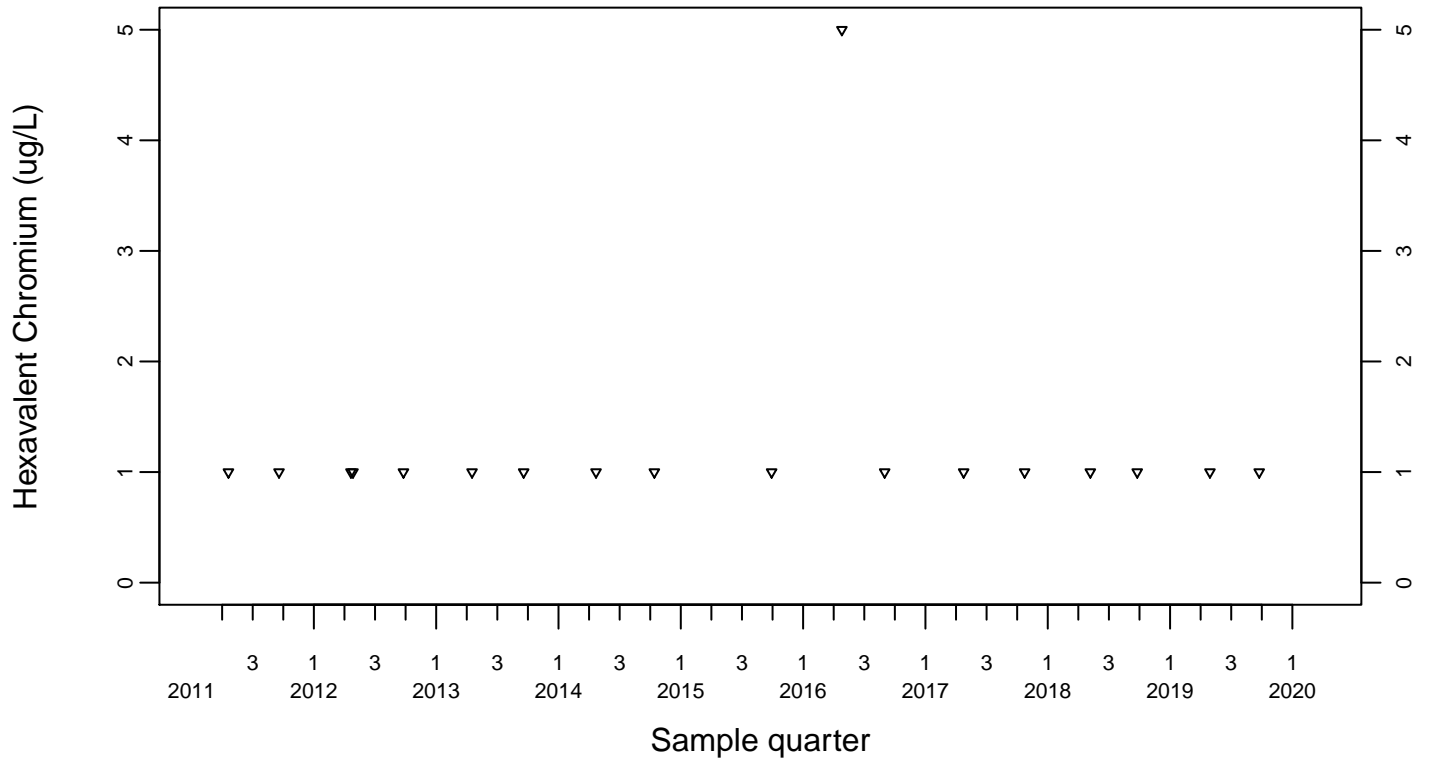
In-pond 3-ESWP-OW



Sewage Ponds Wastewater
Hexavalent Chromium (ug/L)

In-pond 3-ESWP-OW

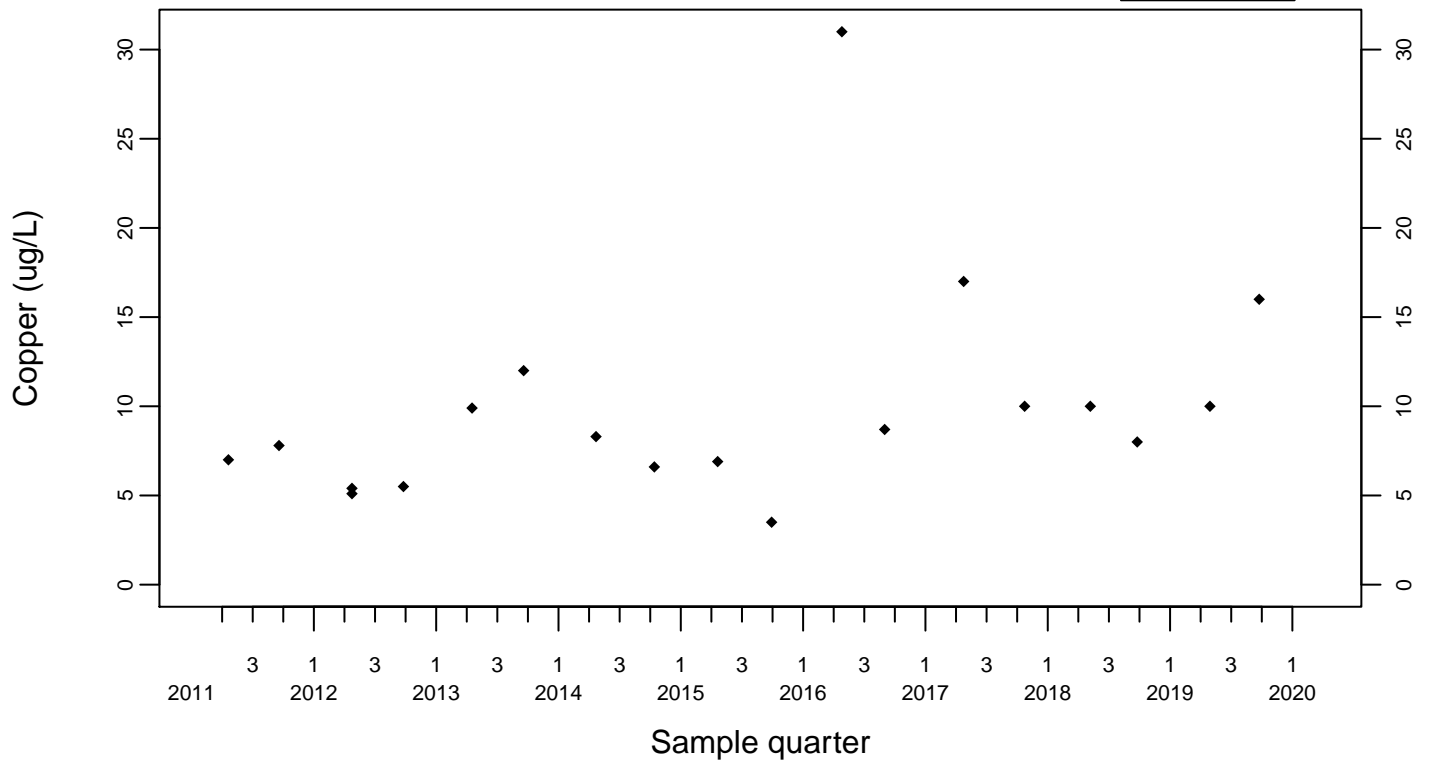
◆ Above RL
▽ Below RL



Sewage Ponds Wastewater
Copper (ug/L)

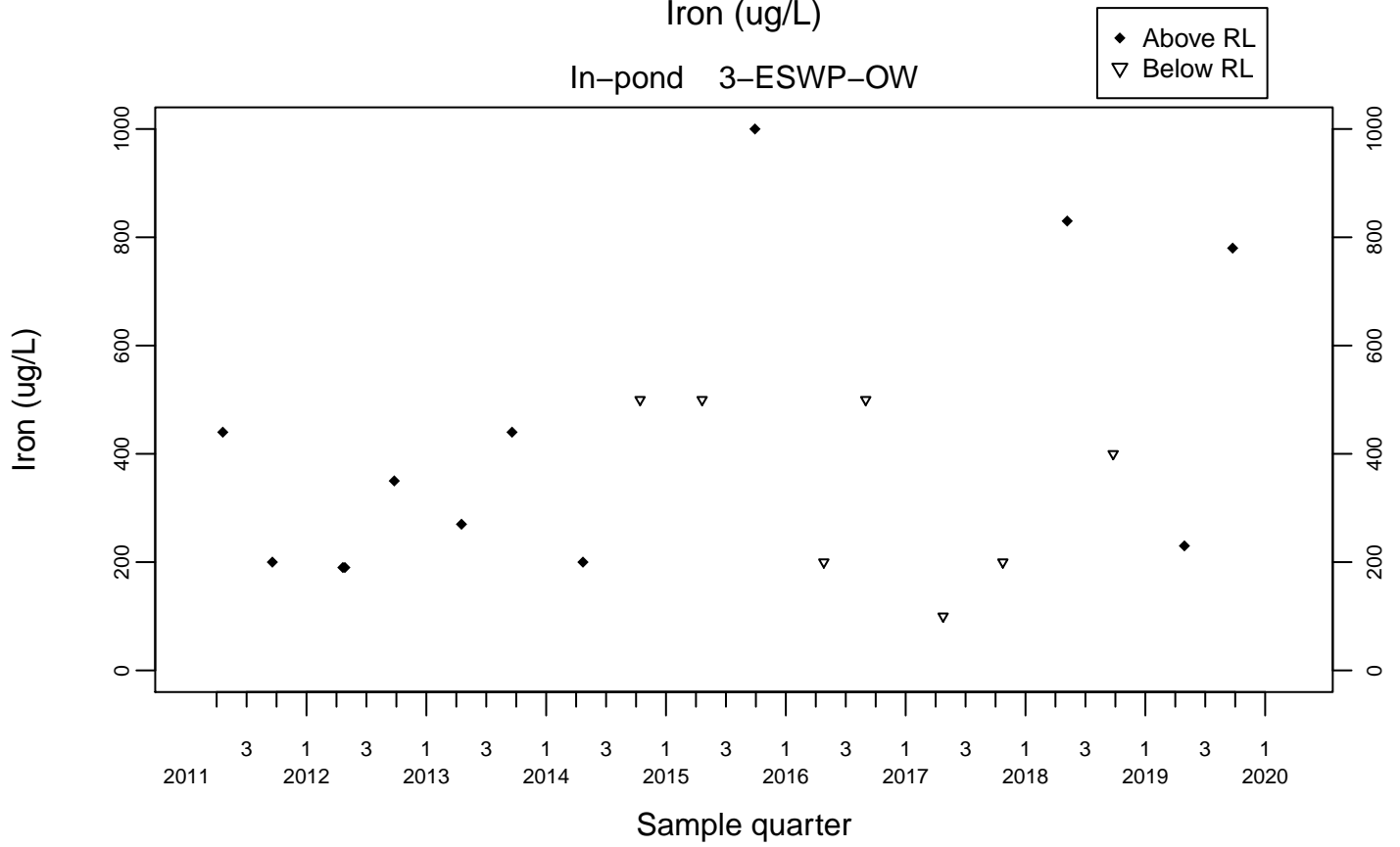
In-pond 3-ESWP-OW

◆ Above RL
▽ Below RL



Sewage Ponds Wastewater Iron (ug/L)

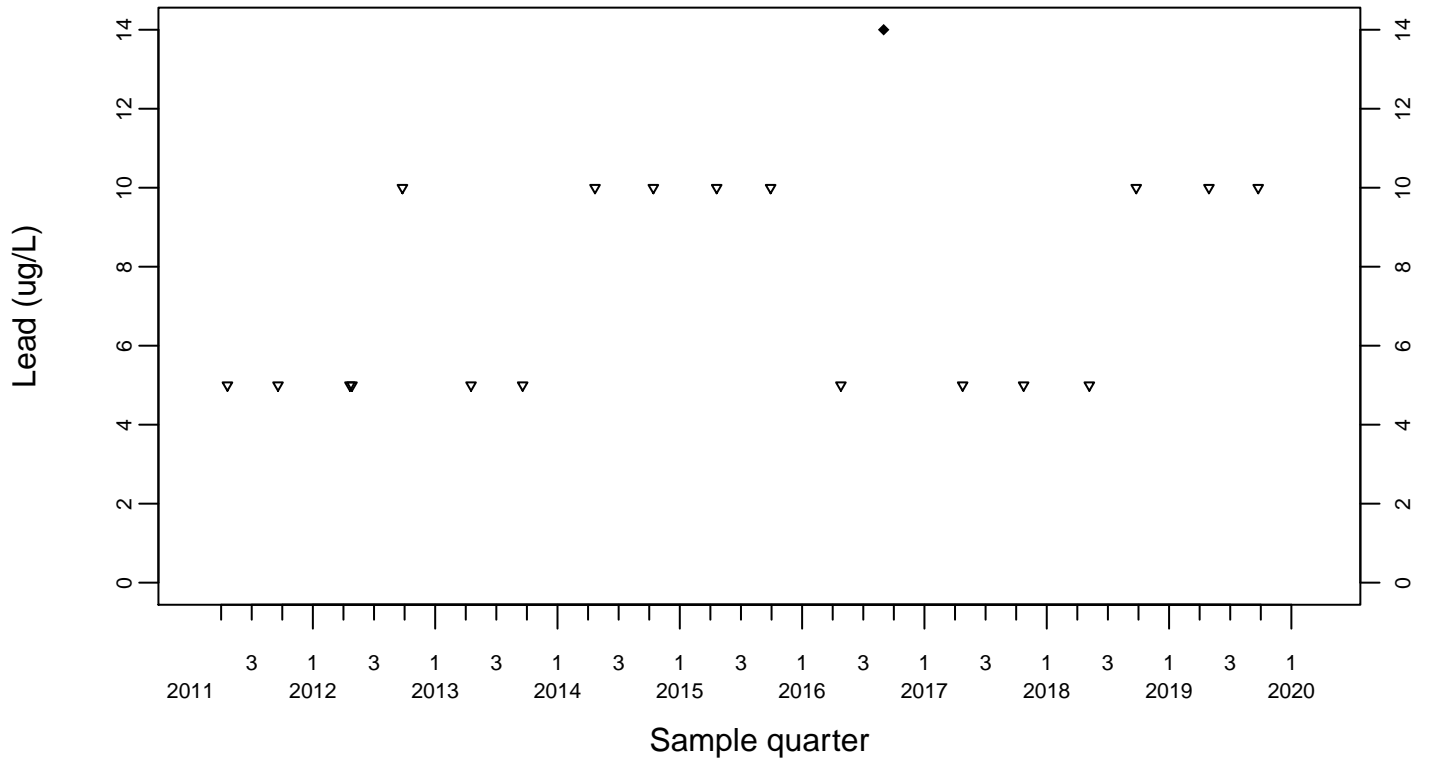
In-pond 3-ESWP-OW



Sewage Ponds Wastewater
Lead (ug/L)

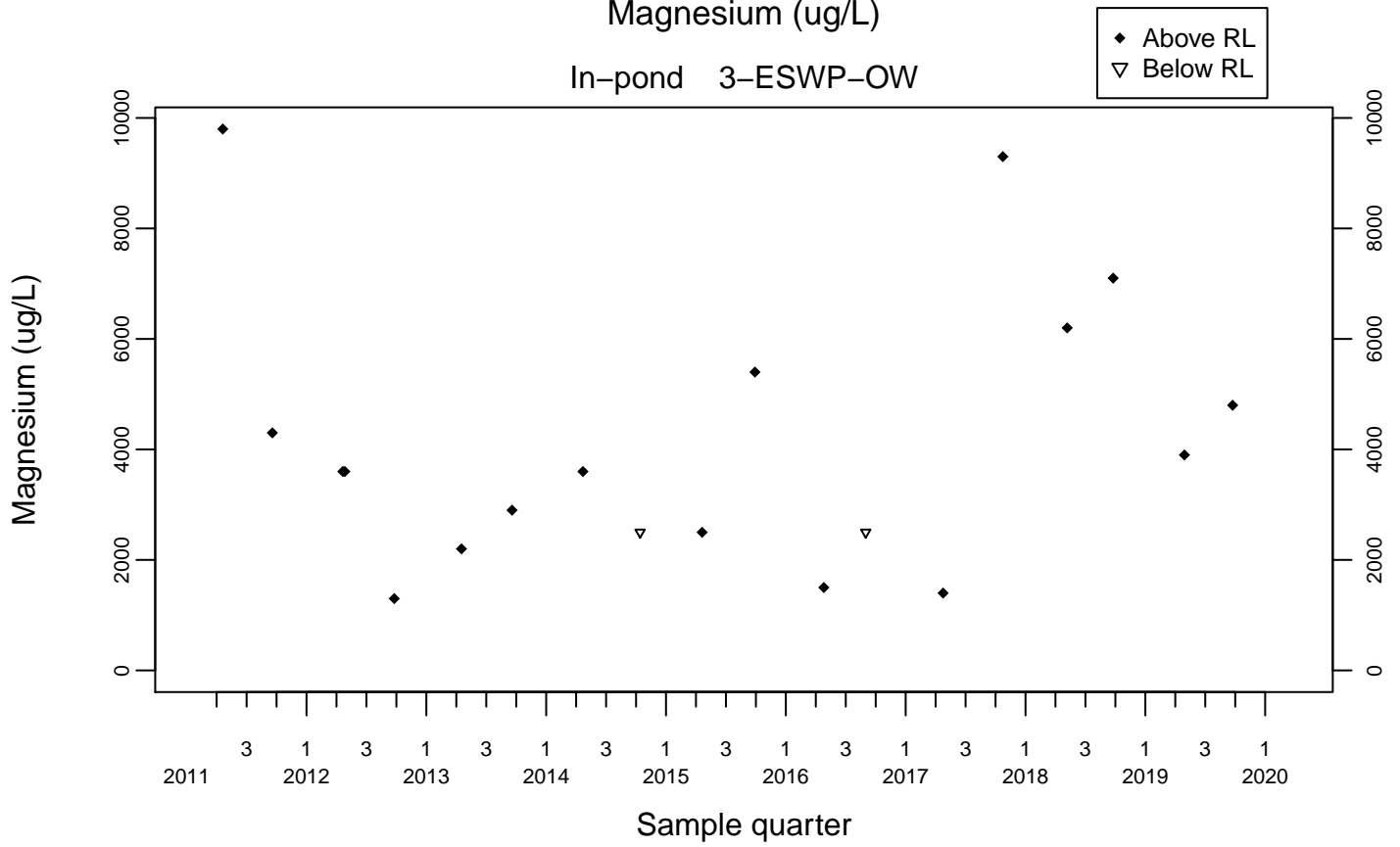
In-pond 3-ESWP-OW

◆ Above RL
▽ Below RL



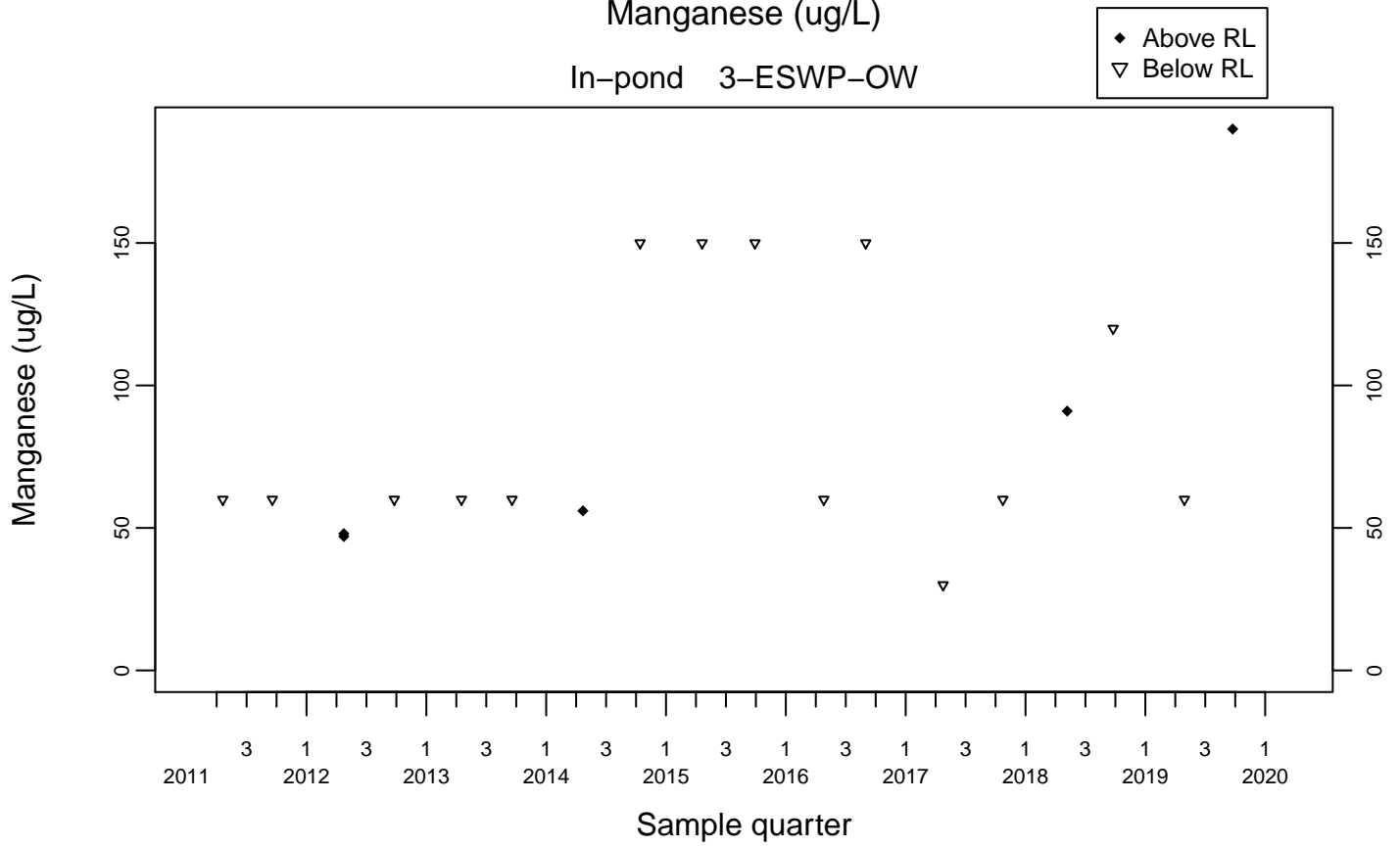
Sewage Ponds Wastewater
Magnesium (ug/L)

In-pond 3-ESWP-OW



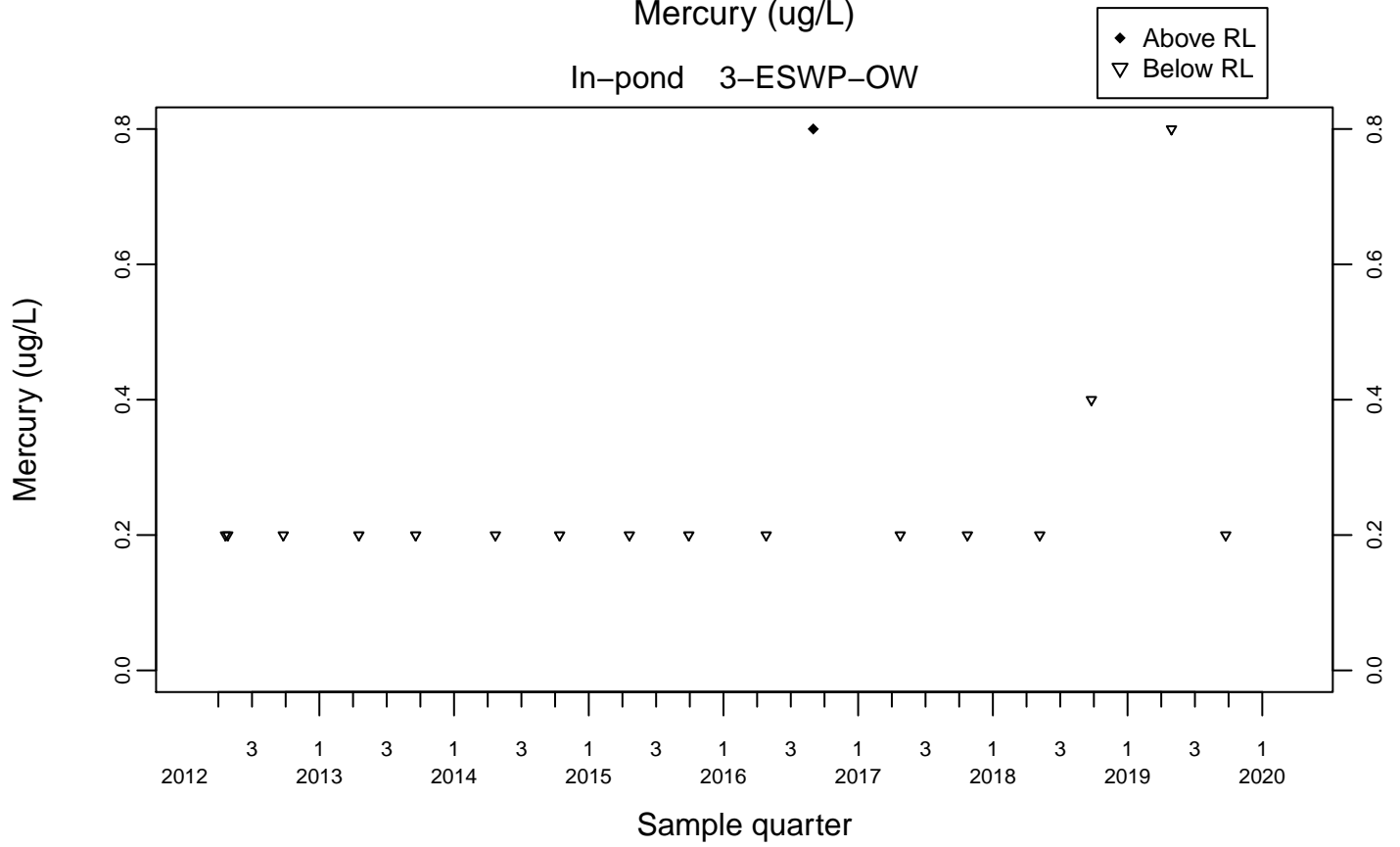
Sewage Ponds Wastewater
Manganese (ug/L)

In-pond 3-ESWP-OW



Sewage Ponds Wastewater
Mercury (ug/L)

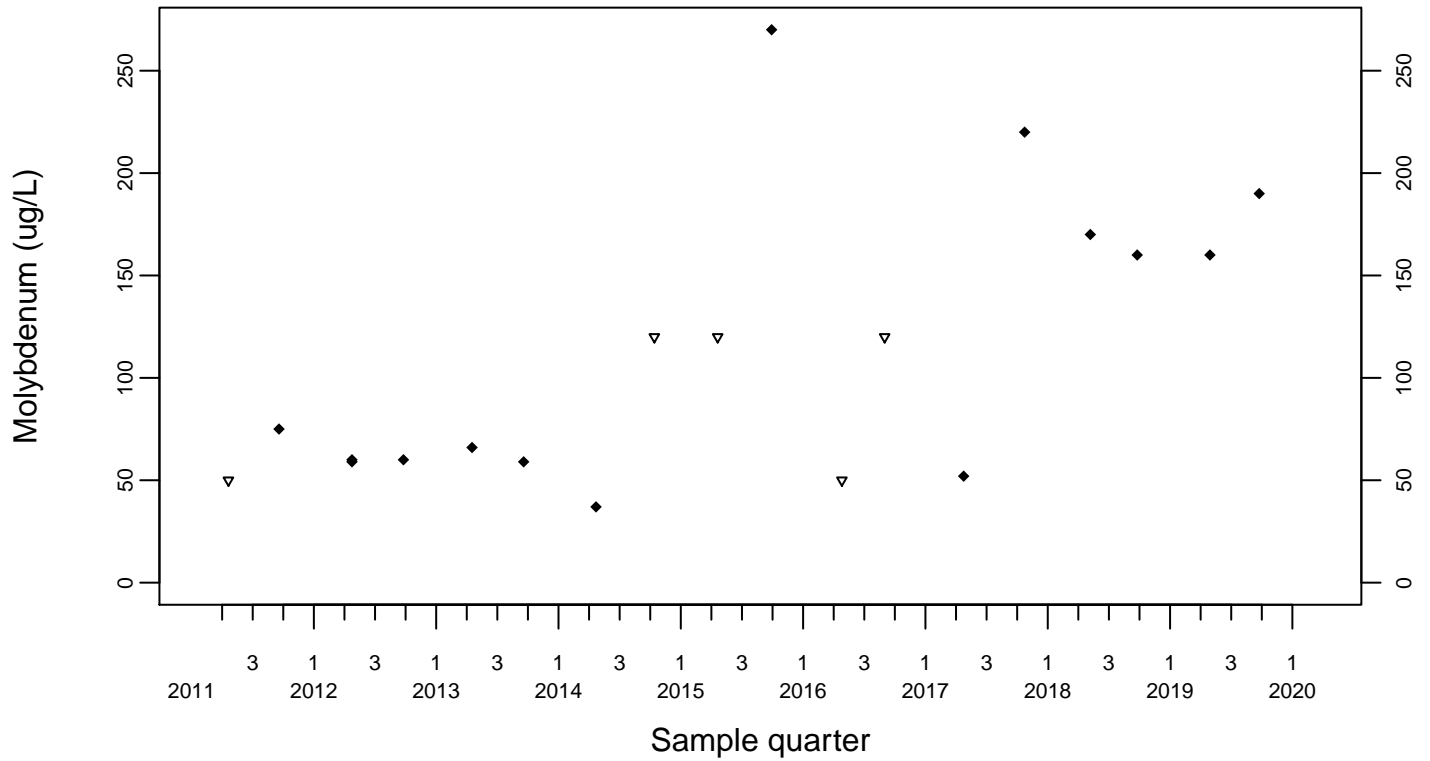
In-pond 3-ESWP-OW



Sewage Ponds Wastewater
Molybdenum (ug/L)

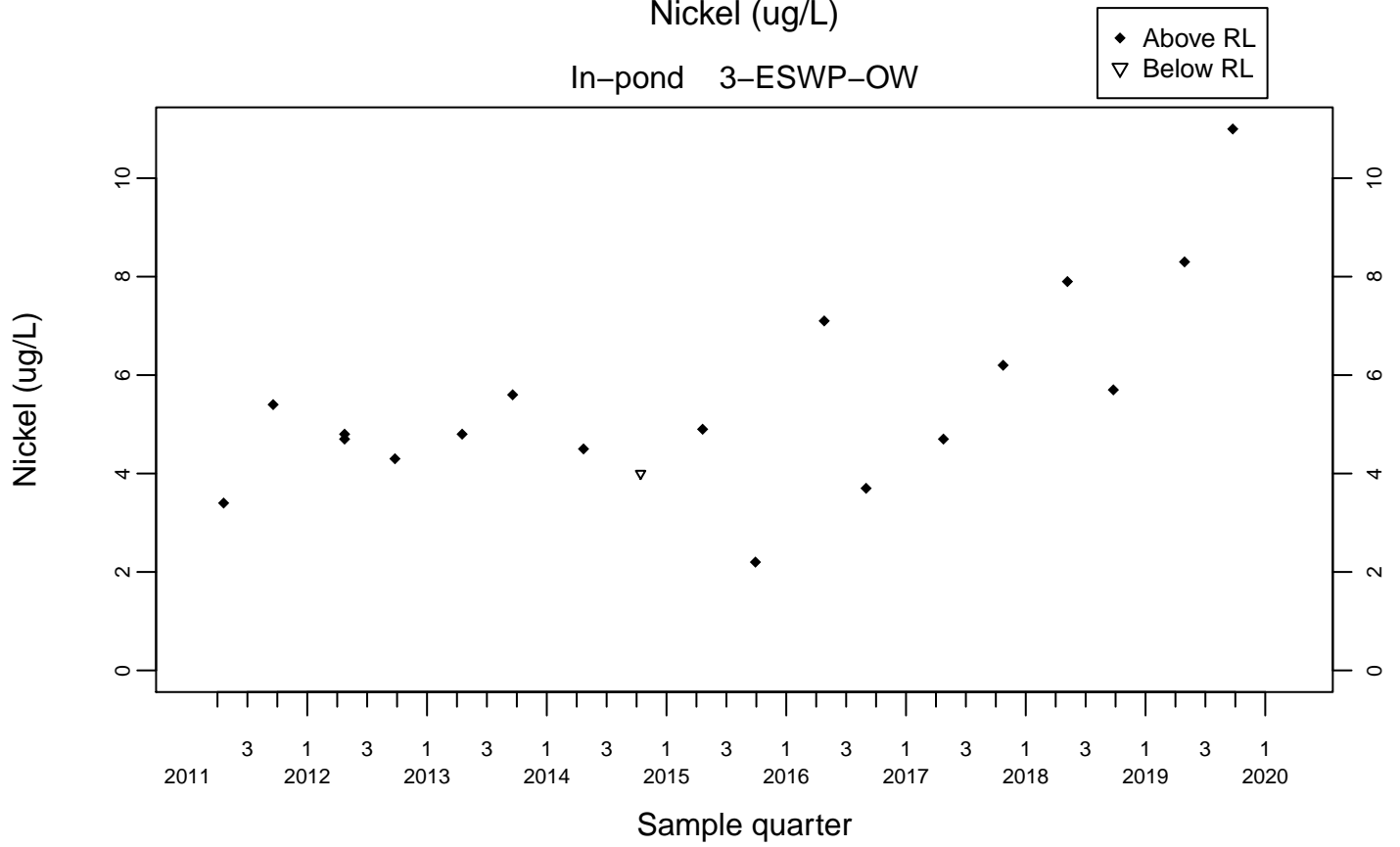
In-pond 3-ESWP-OW

◆ Above RL
▽ Below RL



Sewage Ponds Wastewater
Nickel (ug/L)

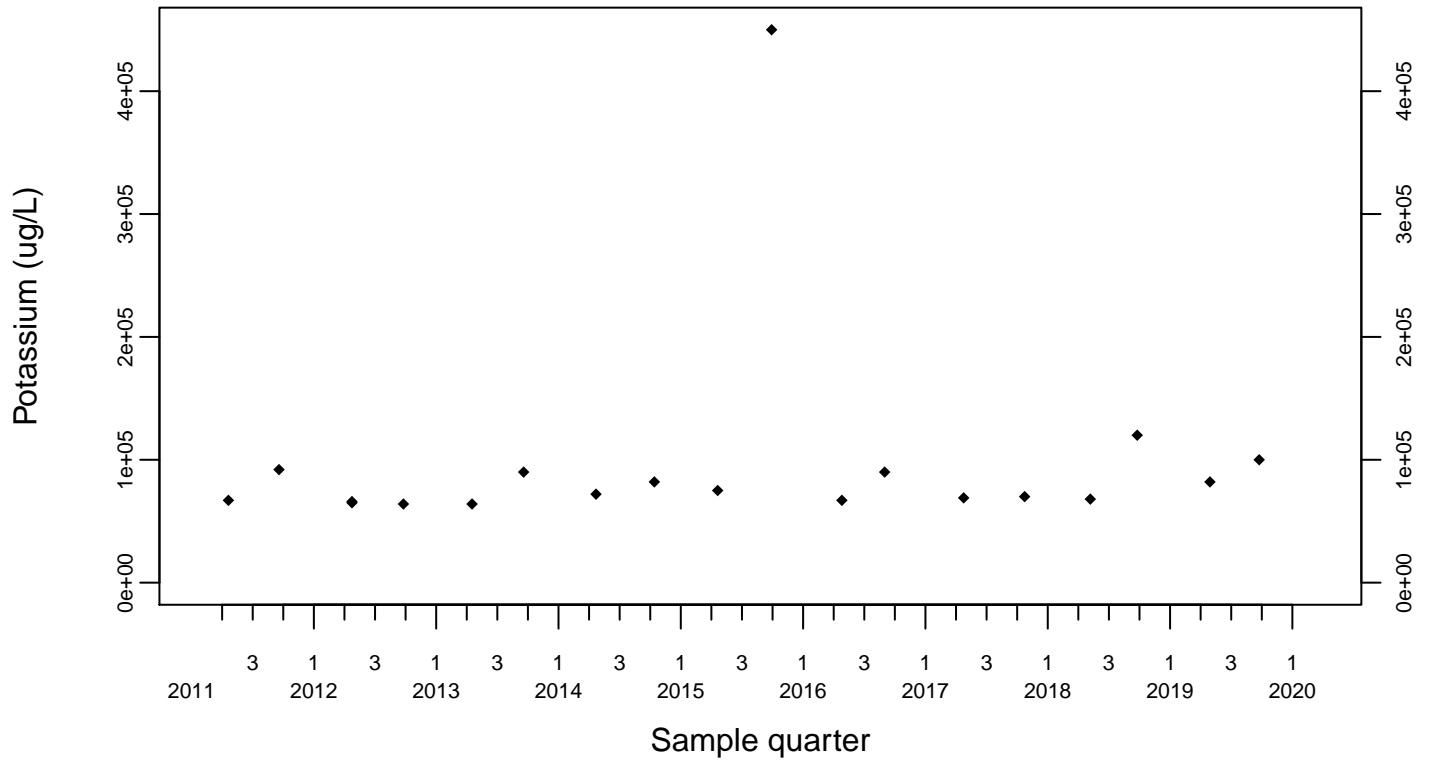
In-pond 3-ESWP-OW



Sewage Ponds Wastewater
Potassium (ug/L)

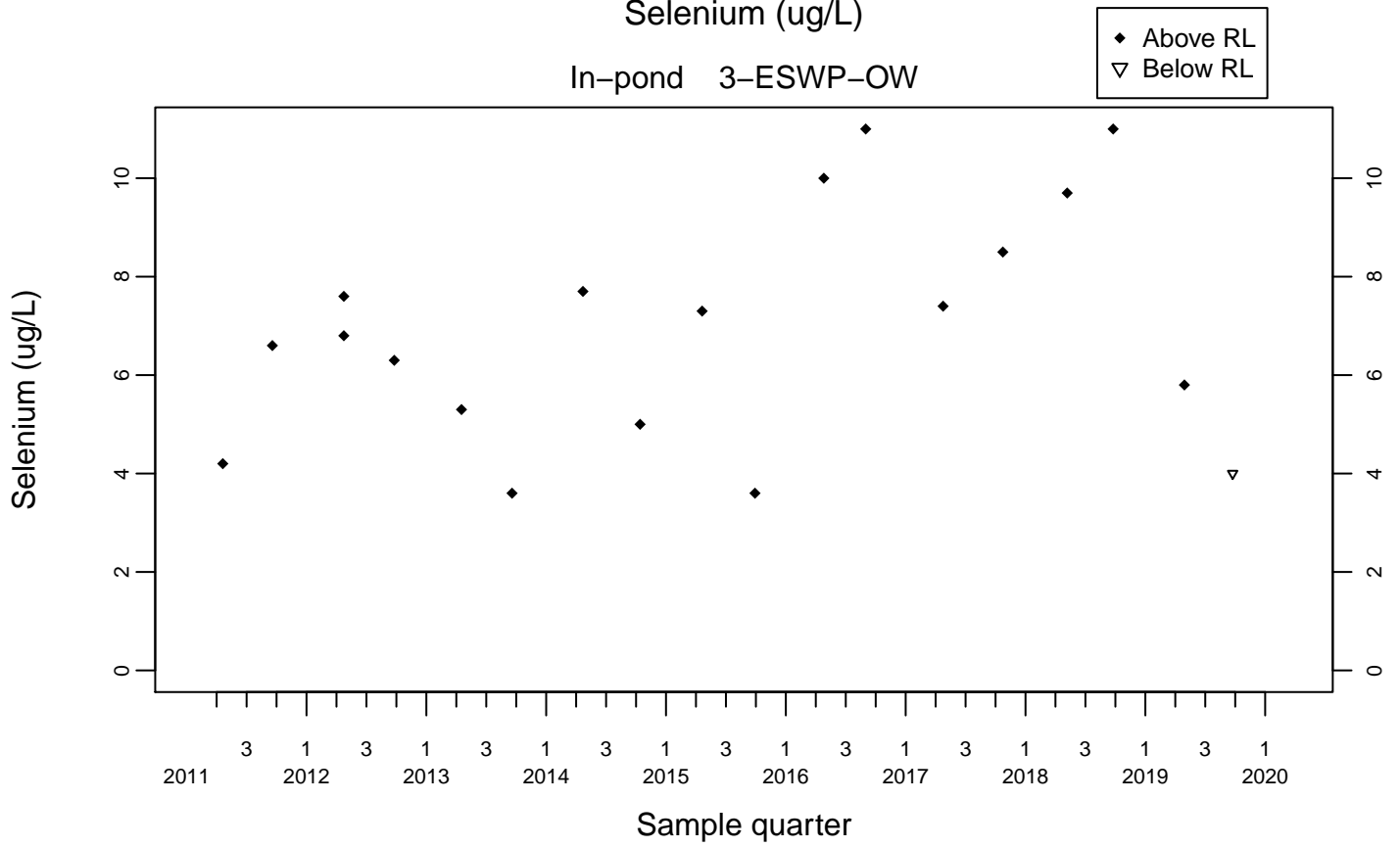
In-pond 3-ESWP-OW

◆ Above RL
▽ Below RL

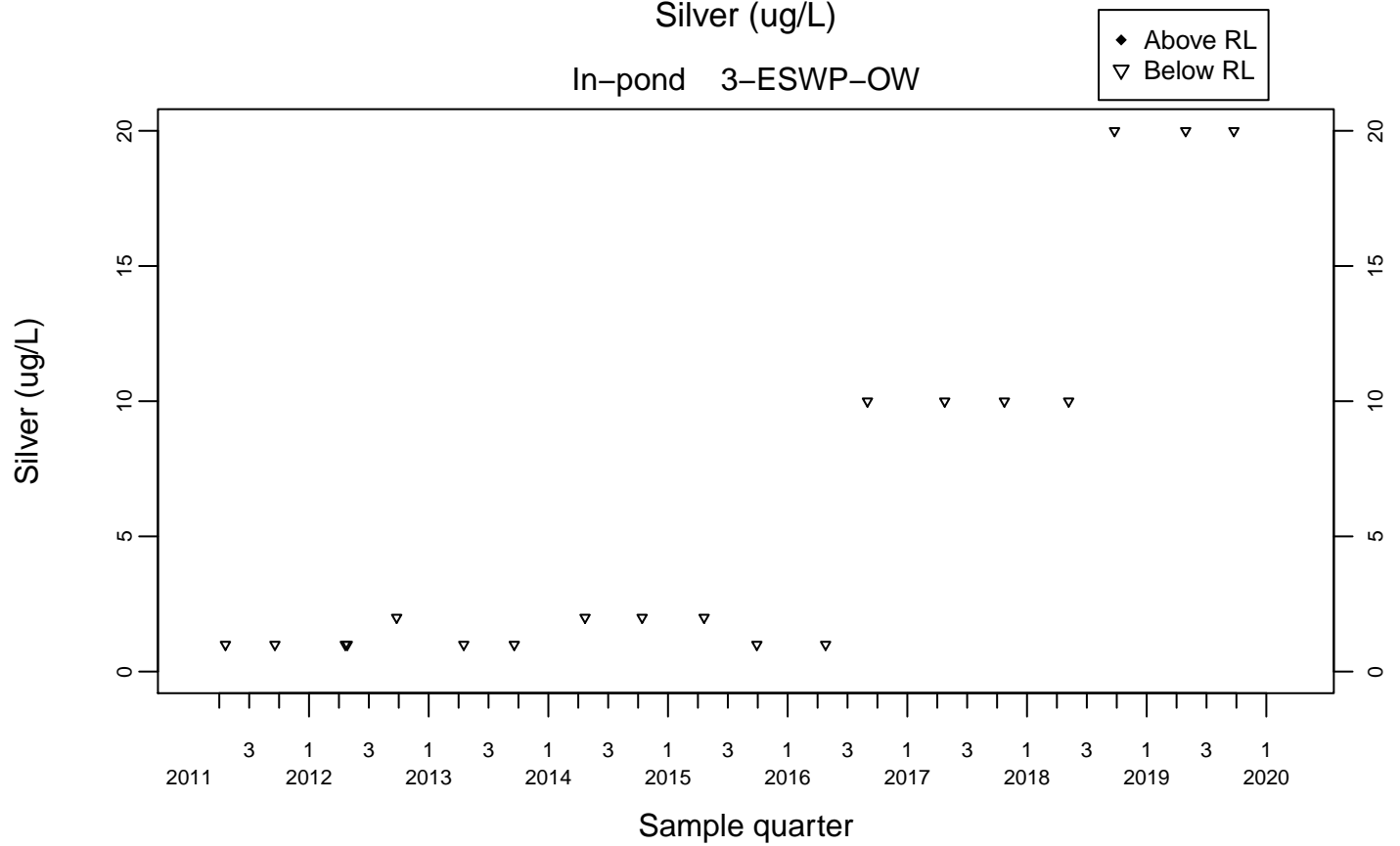


Sewage Ponds Wastewater
Selenium (ug/L)

In-pond 3-ESWP-OW

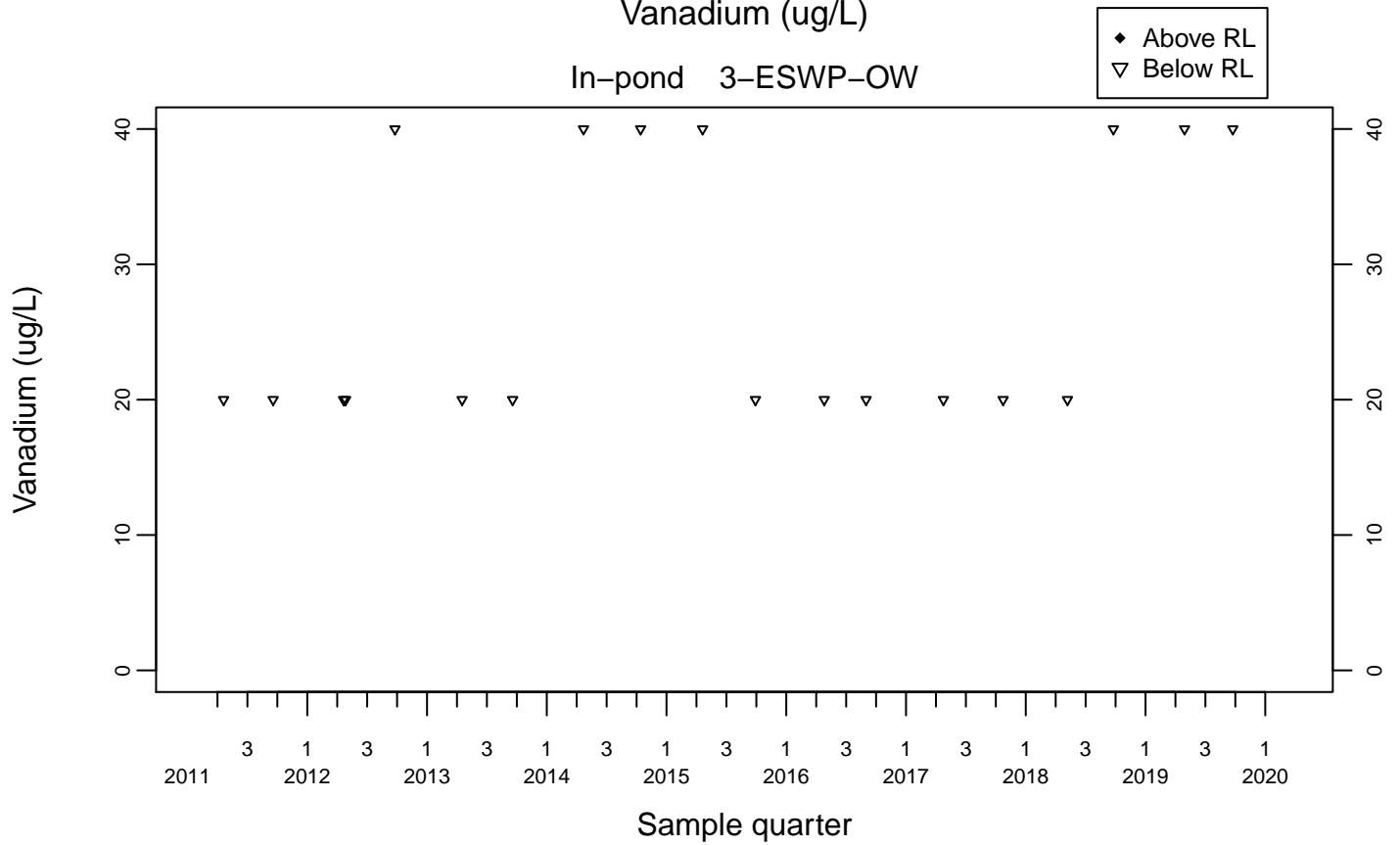


In-pond 3-ESWP-OW



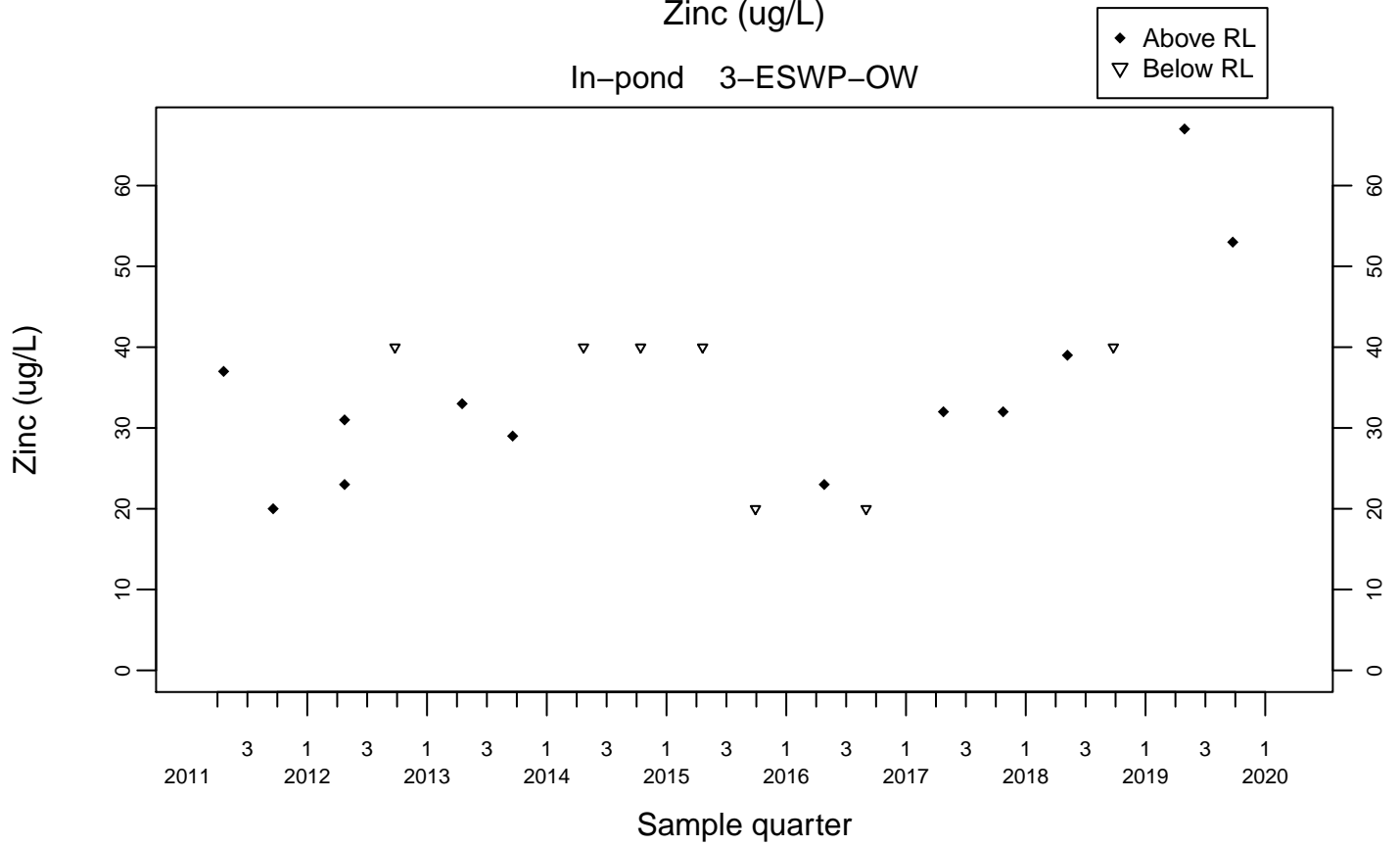
Sewage Ponds Wastewater
Vanadium (ug/L)

In-pond 3-ESWP-OW



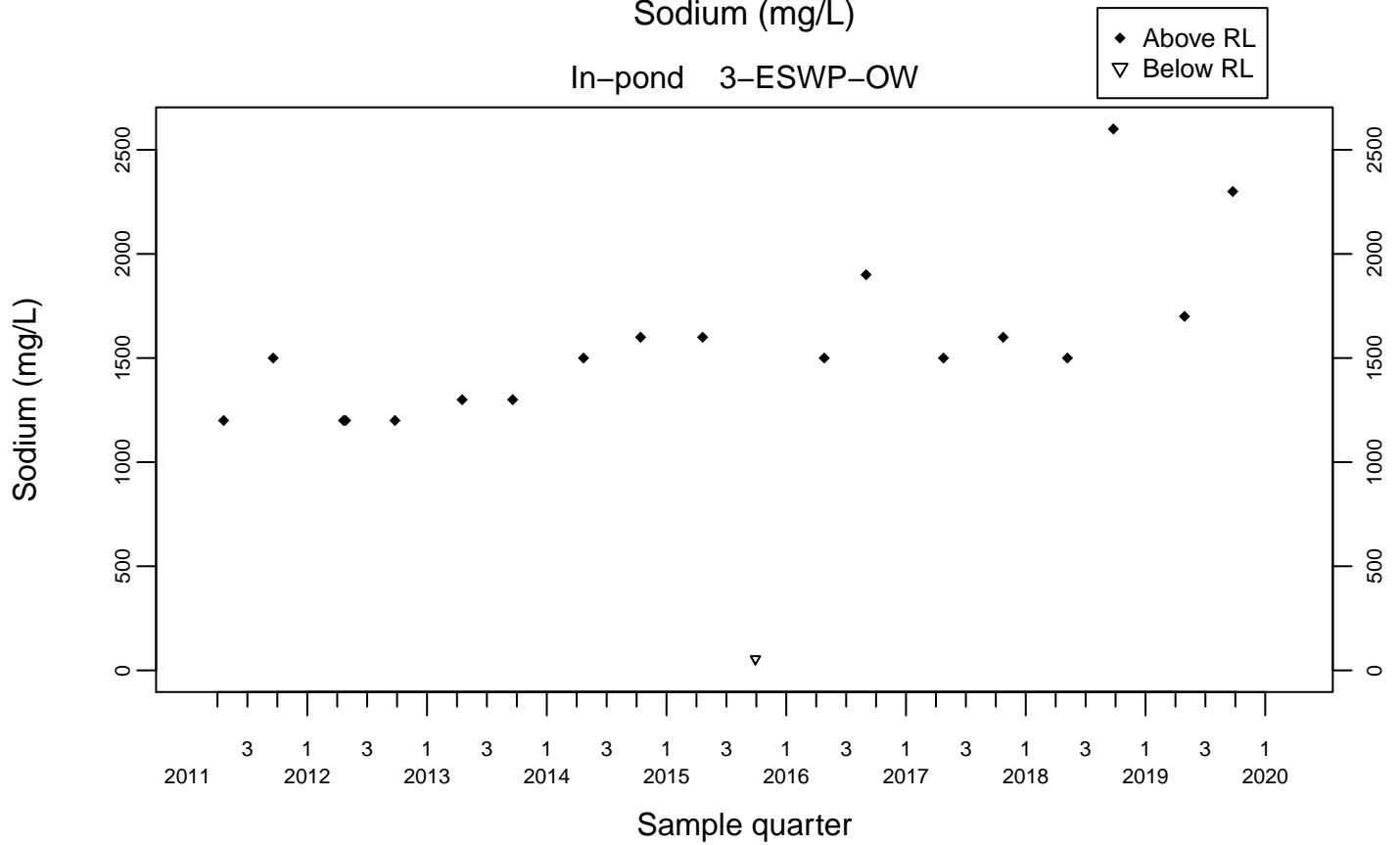
Sewage Ponds Wastewater
Zinc (ug/L)

In-pond 3-ESWP-OW



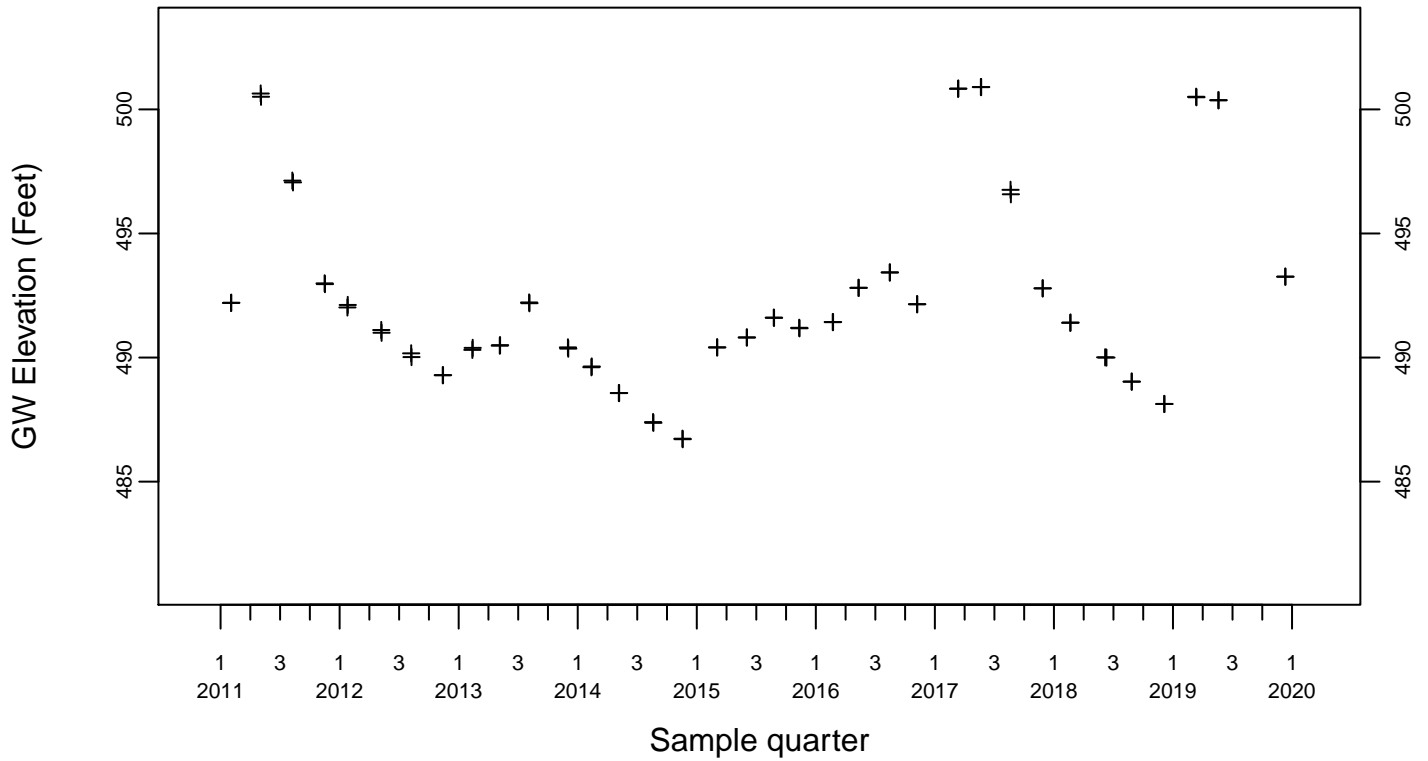
Sewage Ponds Wastewater
Sodium (mg/L)

In-pond 3-ESWP-OW

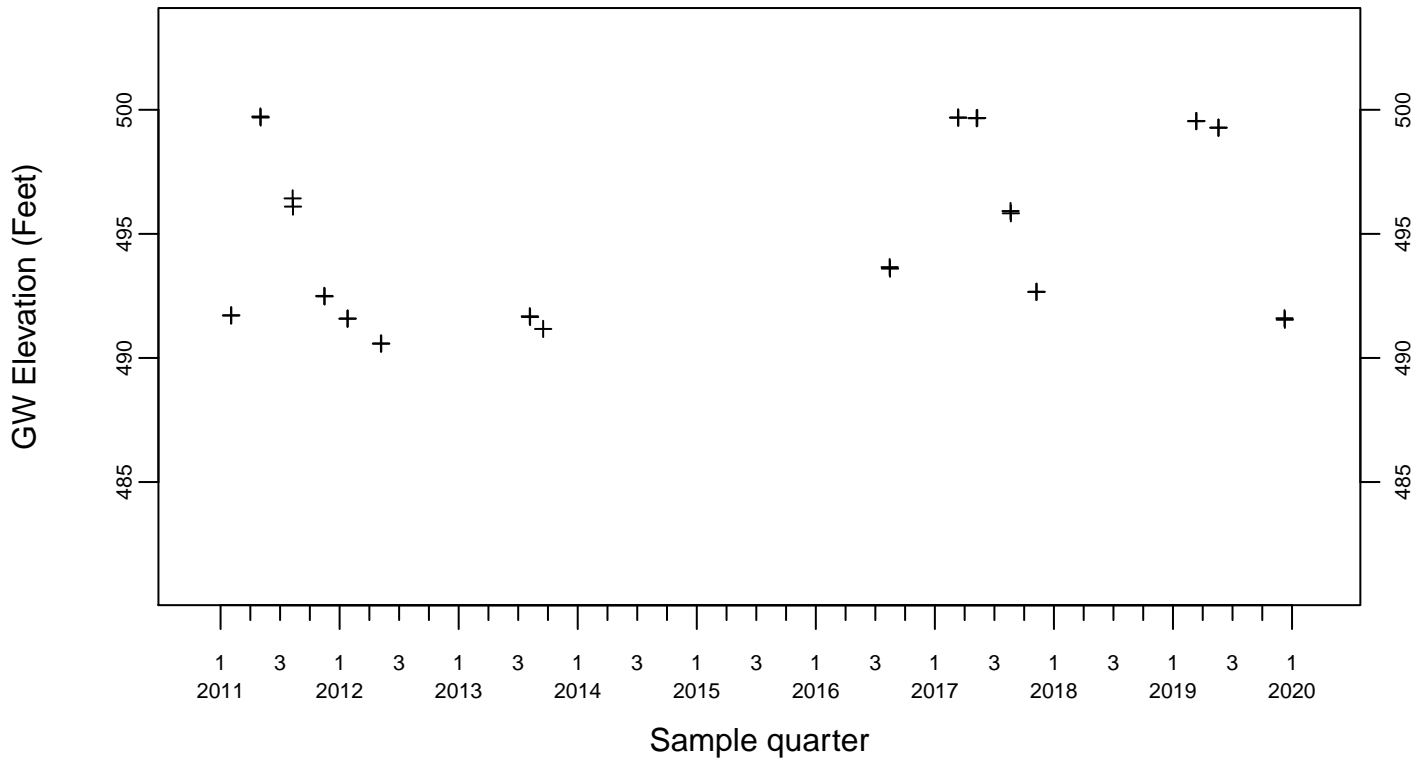


Sewage Ponds Ground Water GW Elevation (Feet)

Upgradient Monitor Well W-7ES

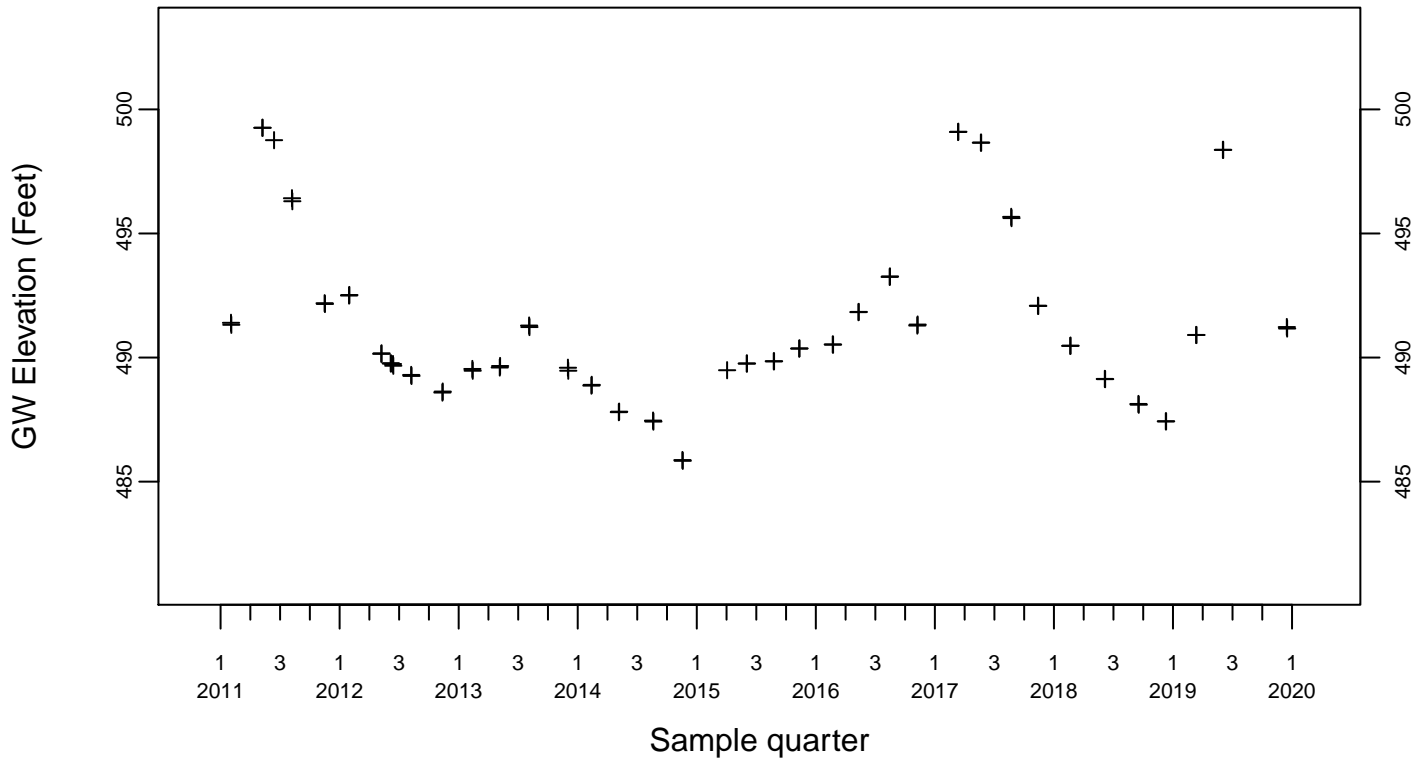


Upgradient Monitor Well W-7PS

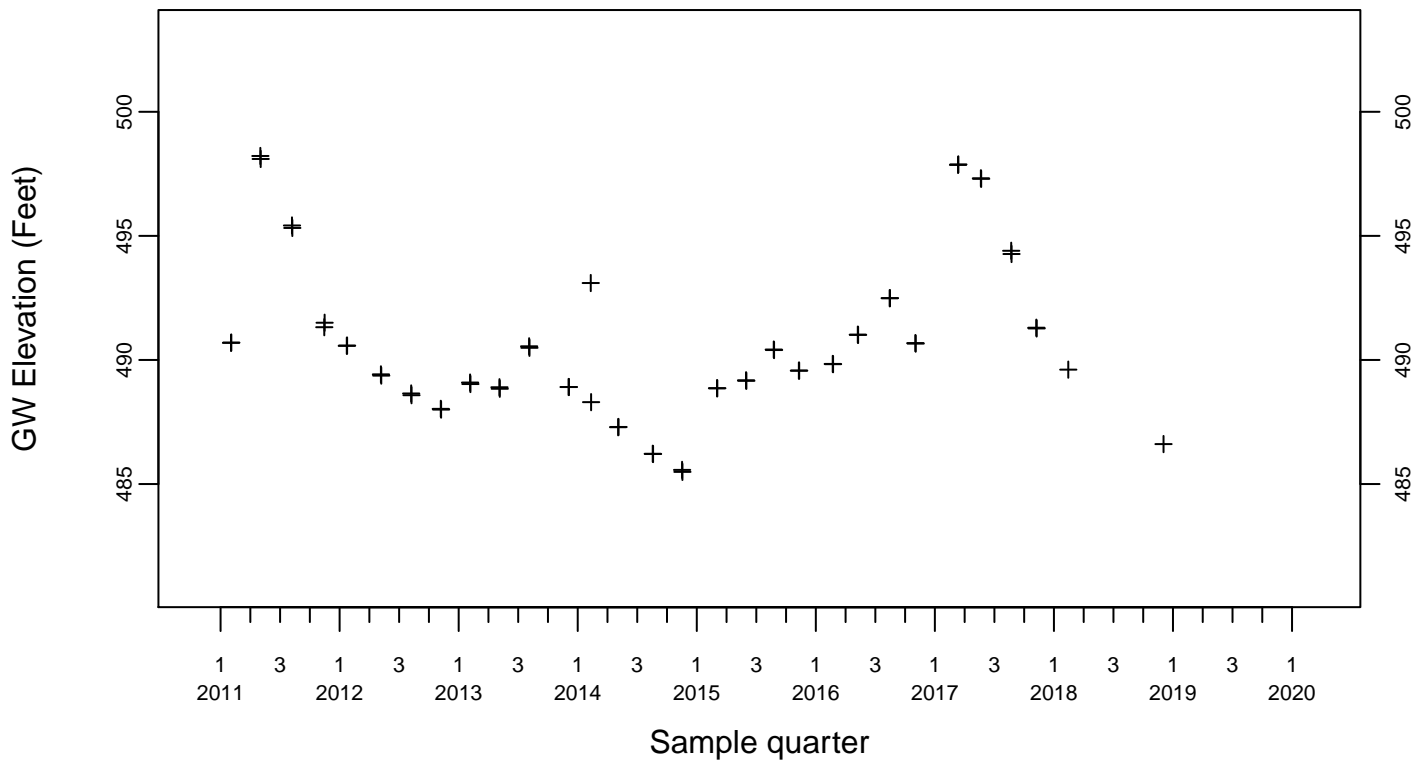


Sewage Ponds Ground Water GW Elevation (Feet)

Crossgradient Monitor Well W-35A-04

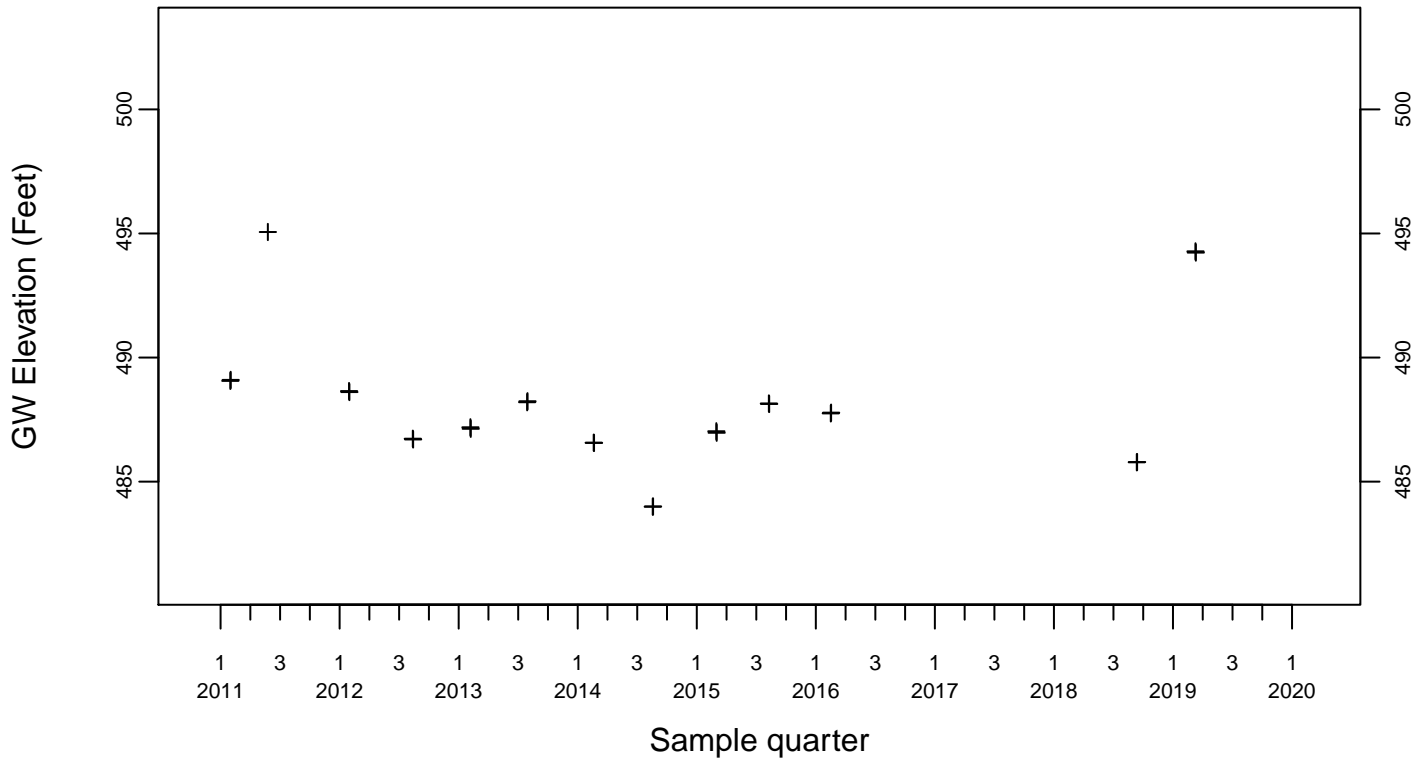


Downgradient Monitor Well W-7DS

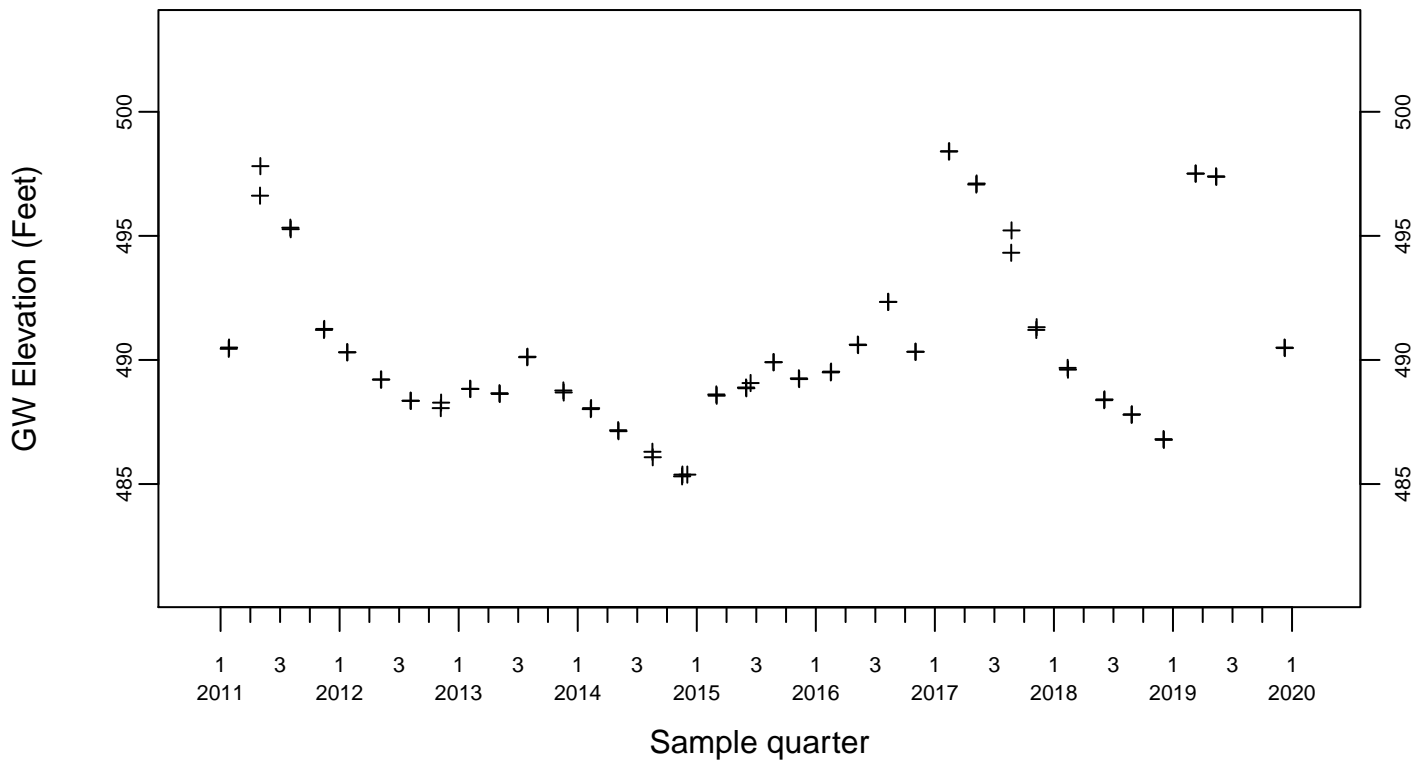


Sewage Ponds Ground Water GW Elevation (Feet)

Downgradient Monitor Well W-25N-23

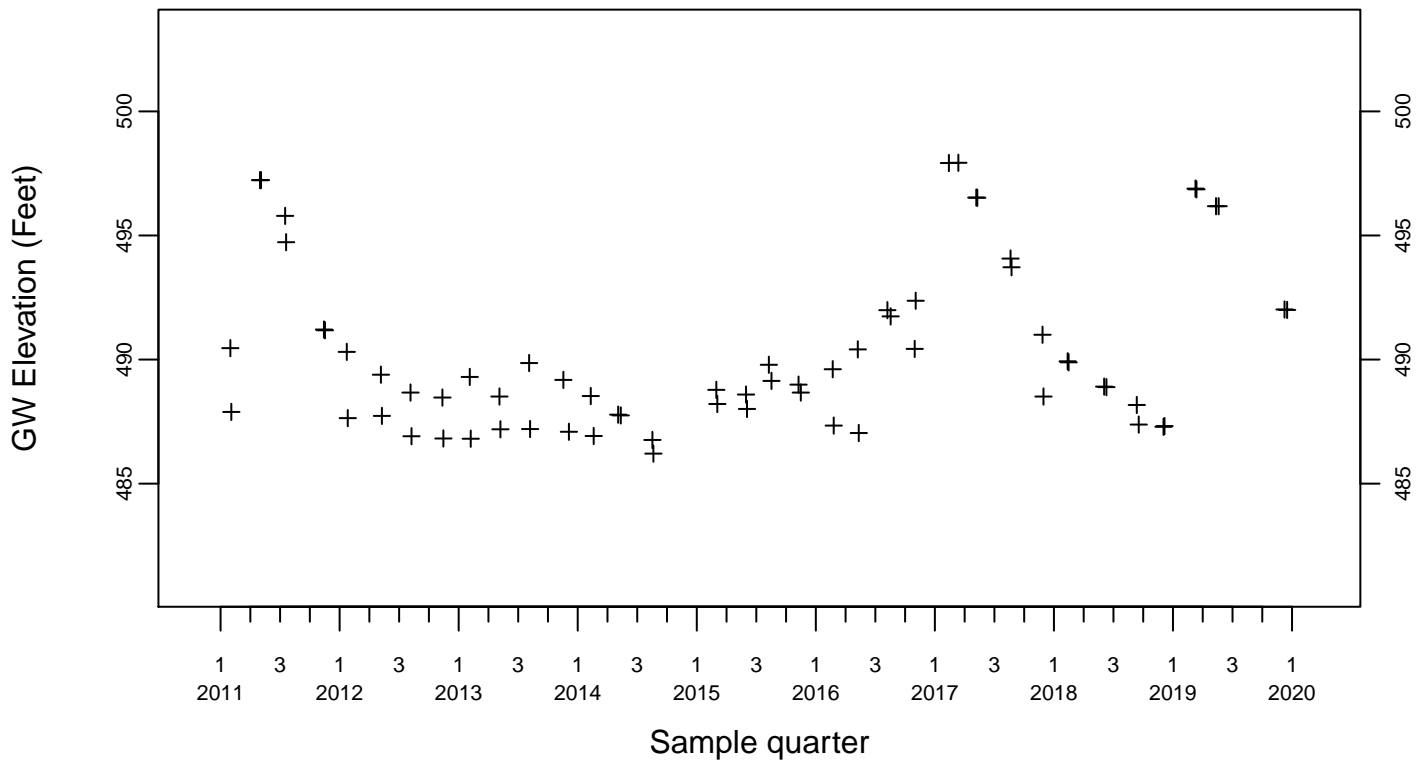


Downgradient Monitor Well W-26R-01

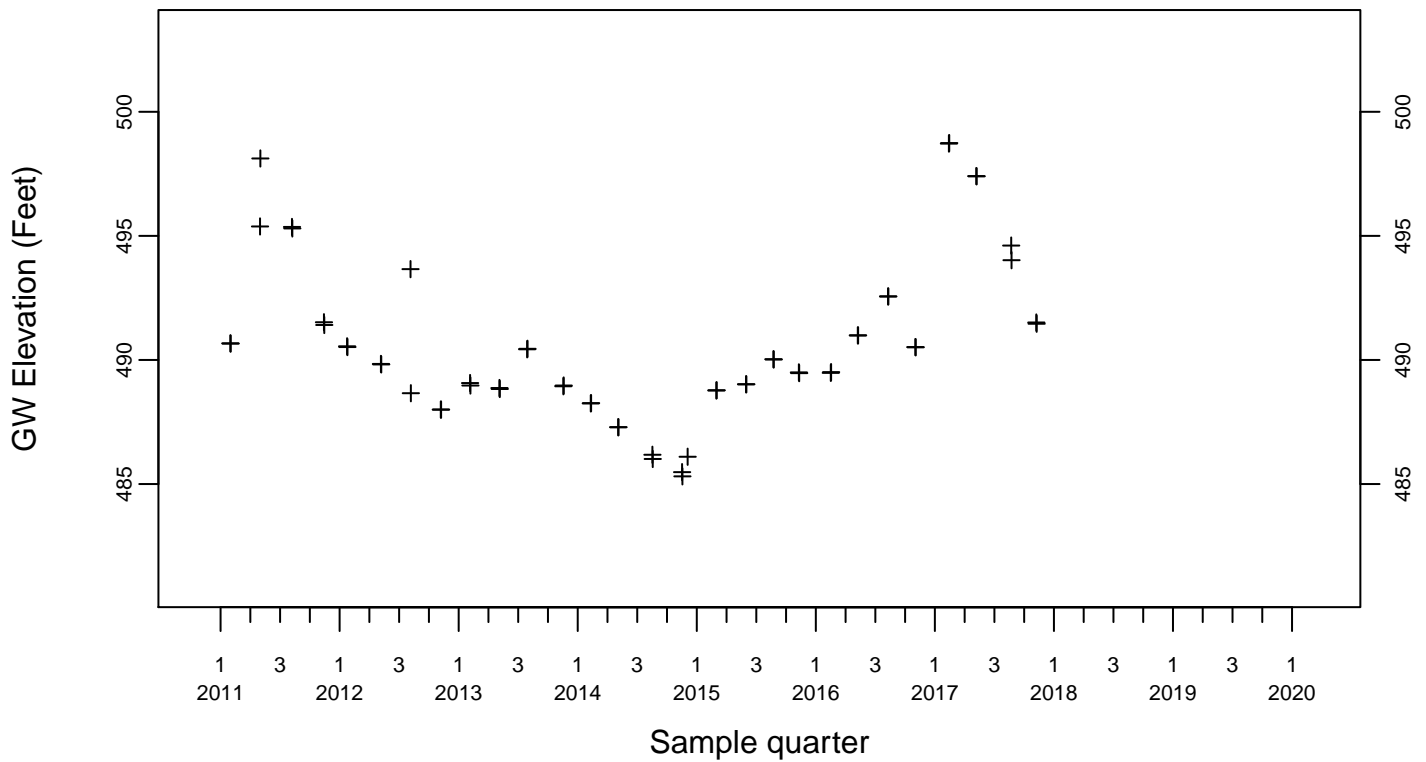


Sewage Ponds Ground Water GW Elevation (Feet)

Downgradient Monitor Well W-26R-05

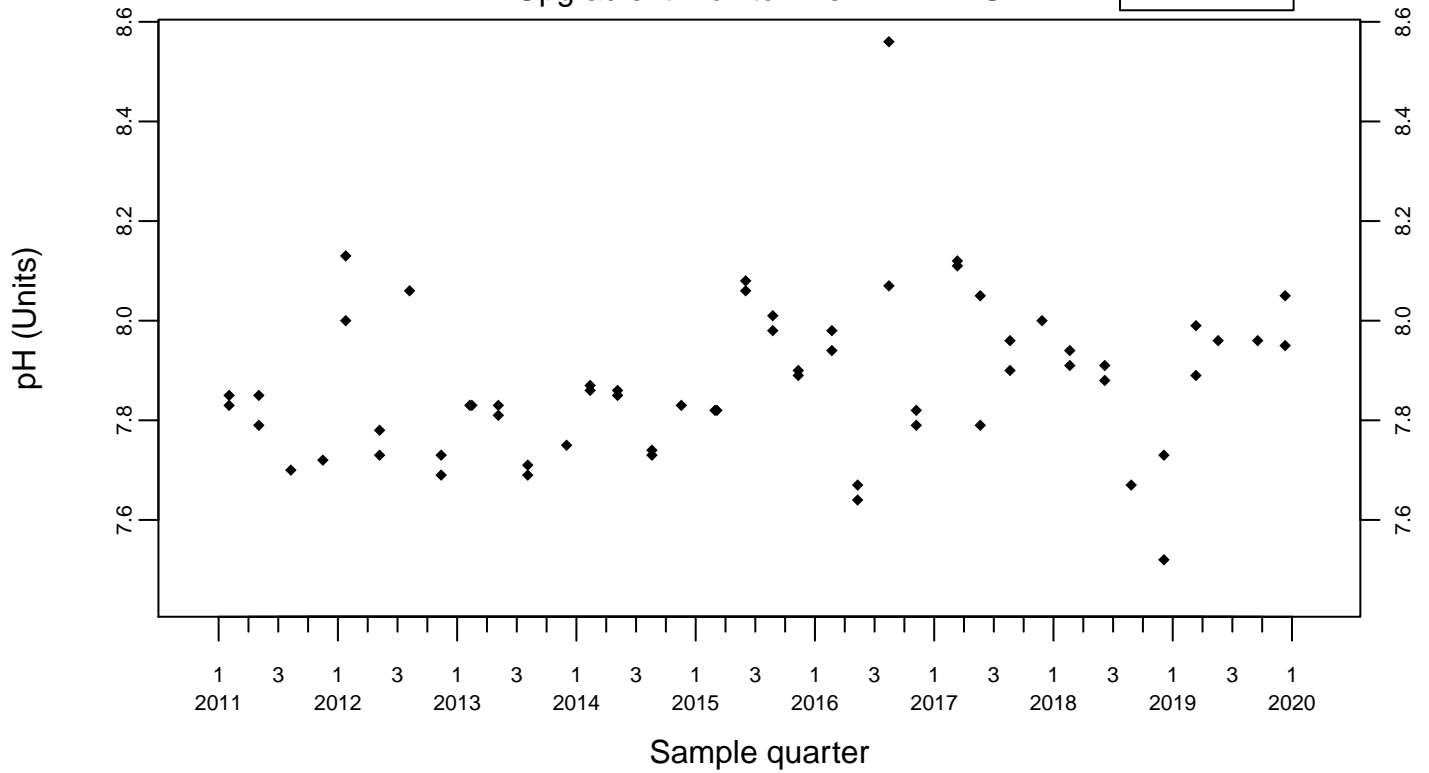
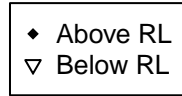


Downgradient Monitor Well W-26R-11

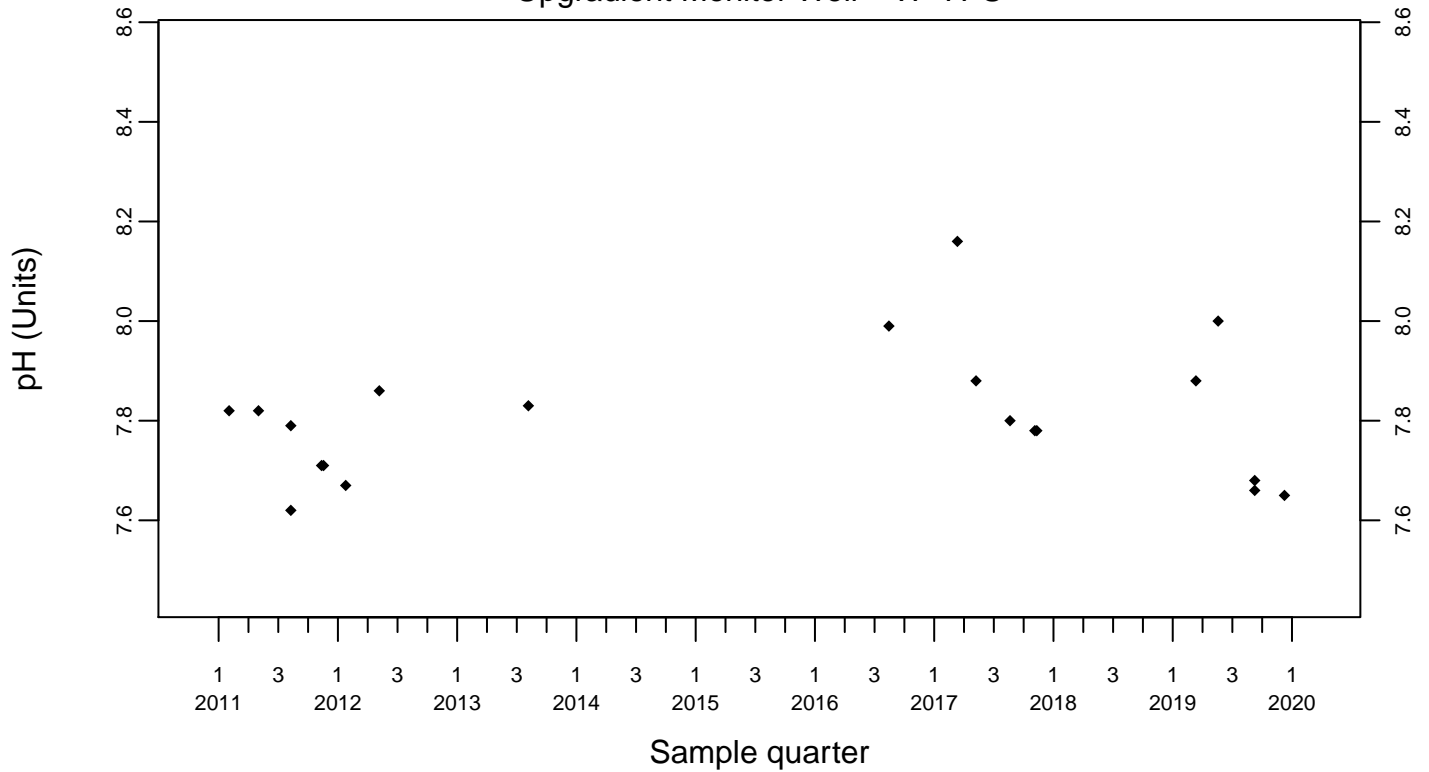


Sewage Ponds Ground Water pH (Units)

Upgradient Monitor Well W-7ES



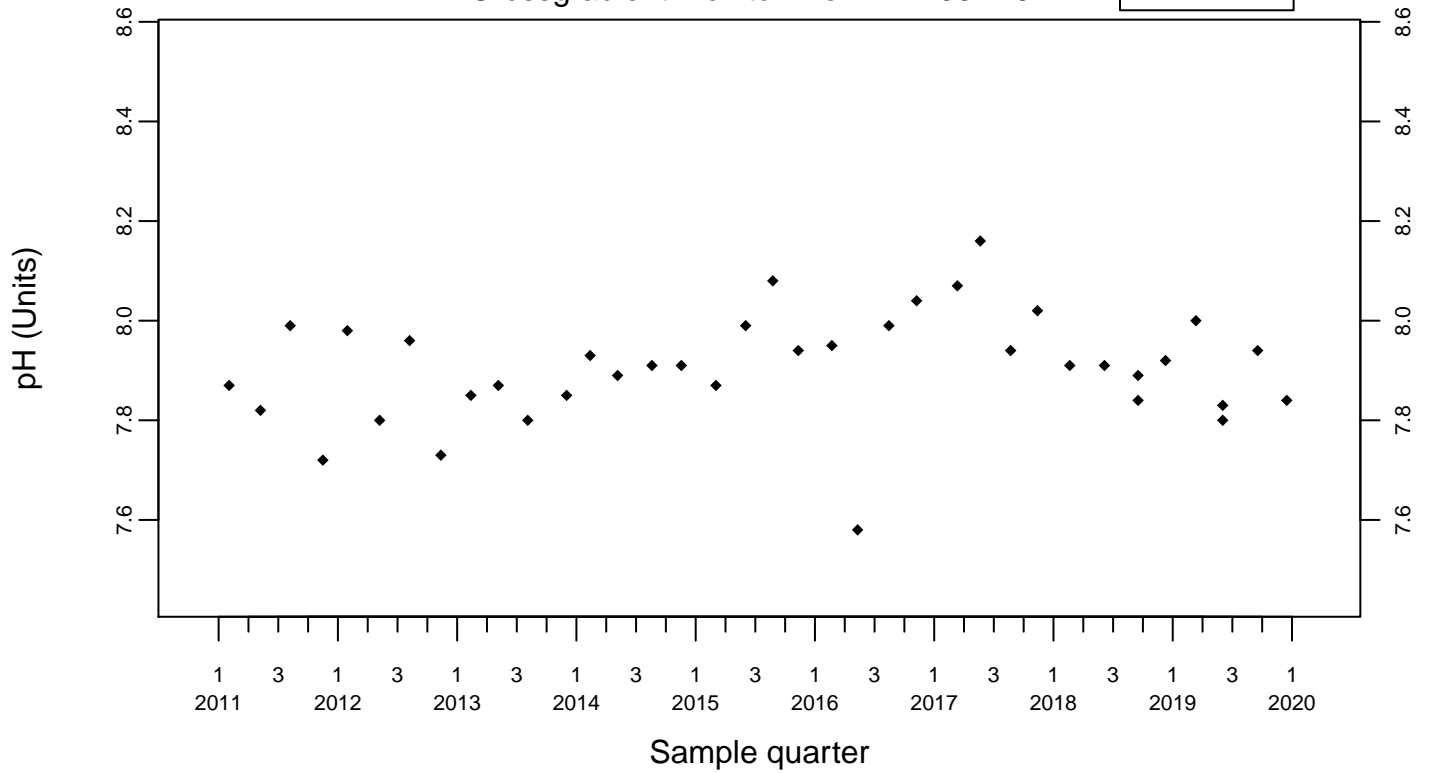
Upgradient Monitor Well W-7PS



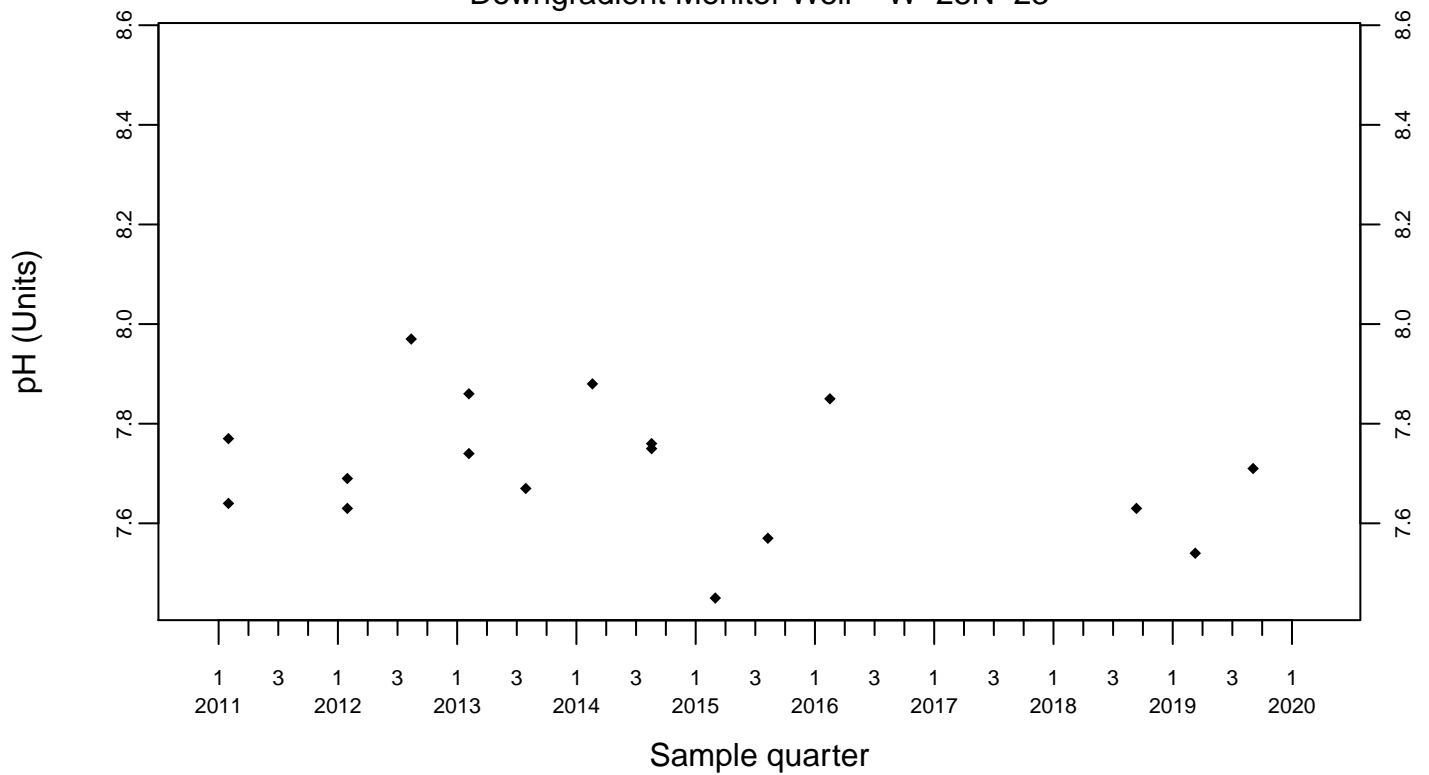
Sewage Ponds Ground Water pH (Units)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



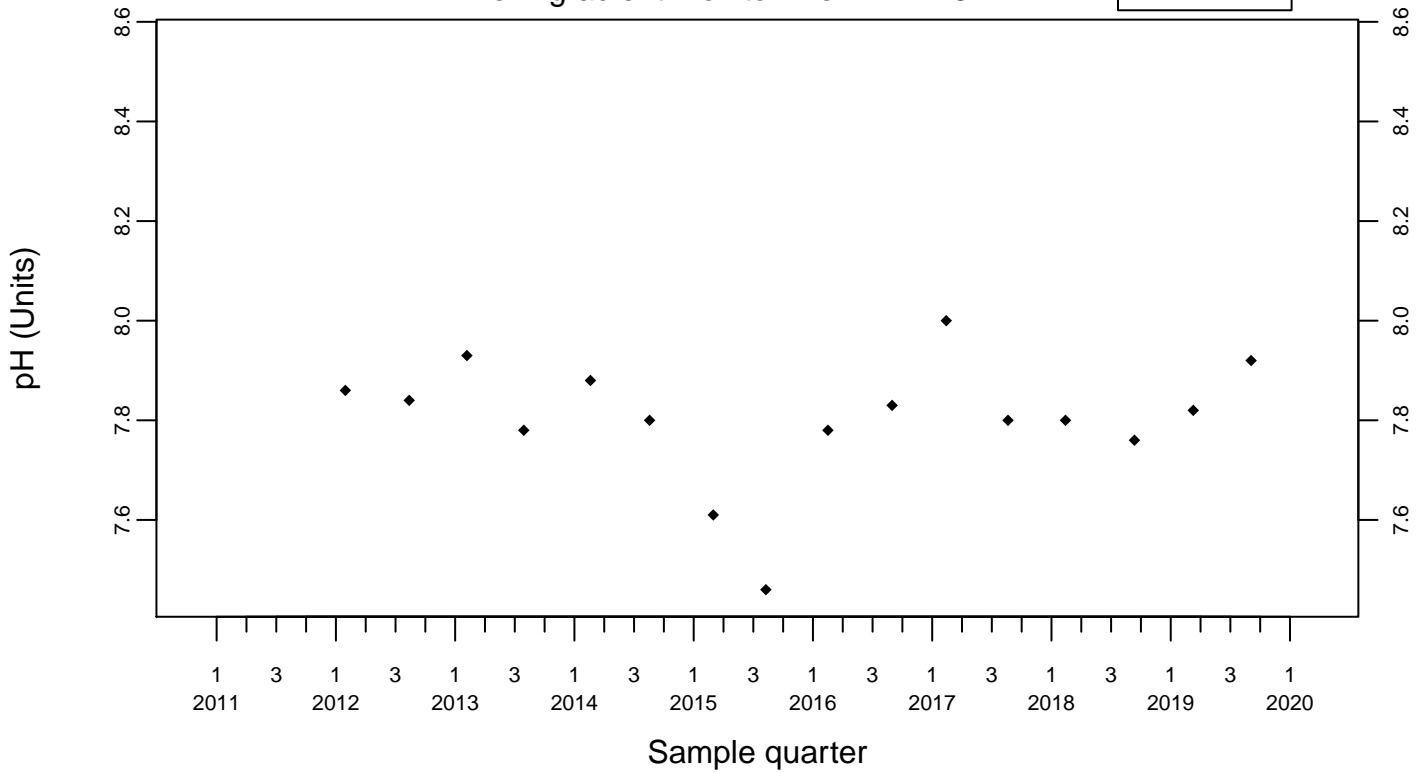
Downgradient Monitor Well W-25N-23



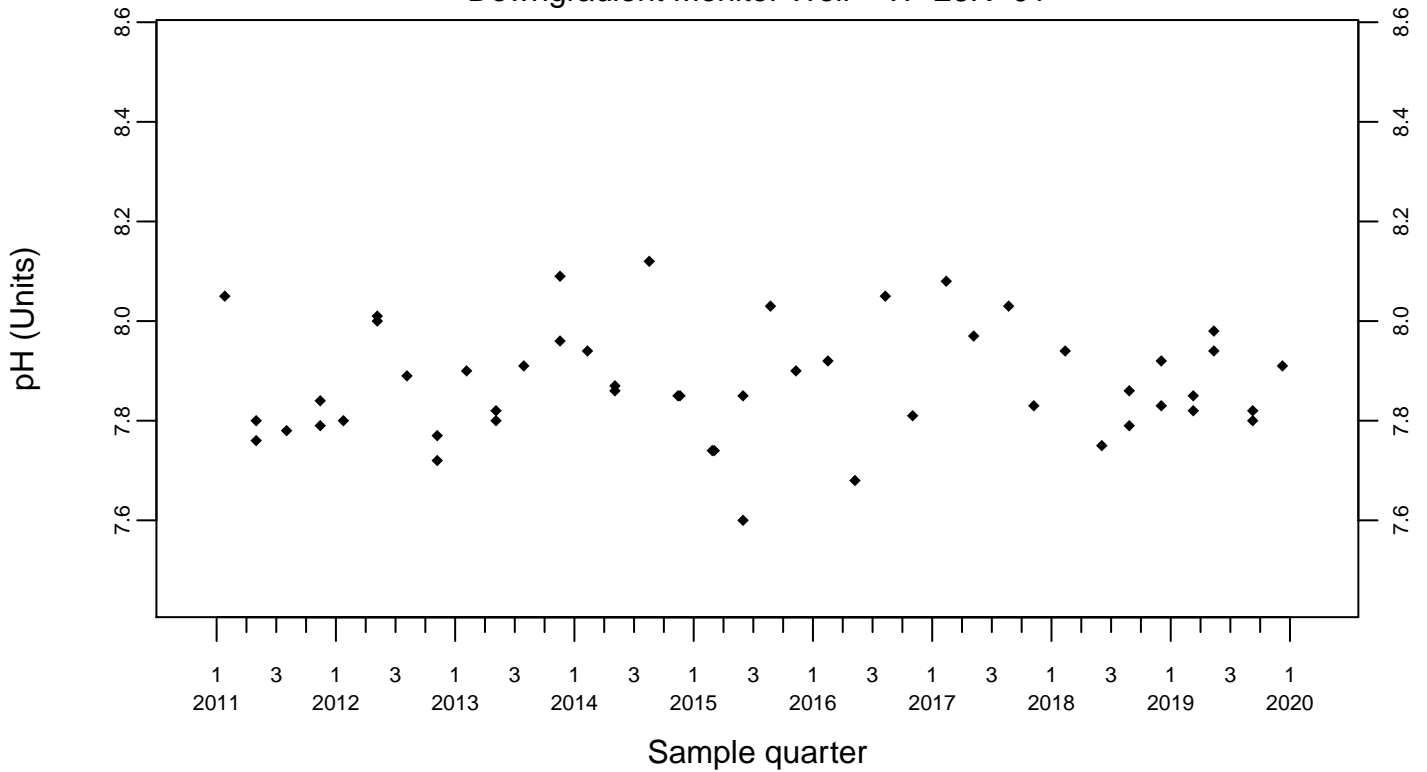
Sewage Ponds Ground Water pH (Units)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



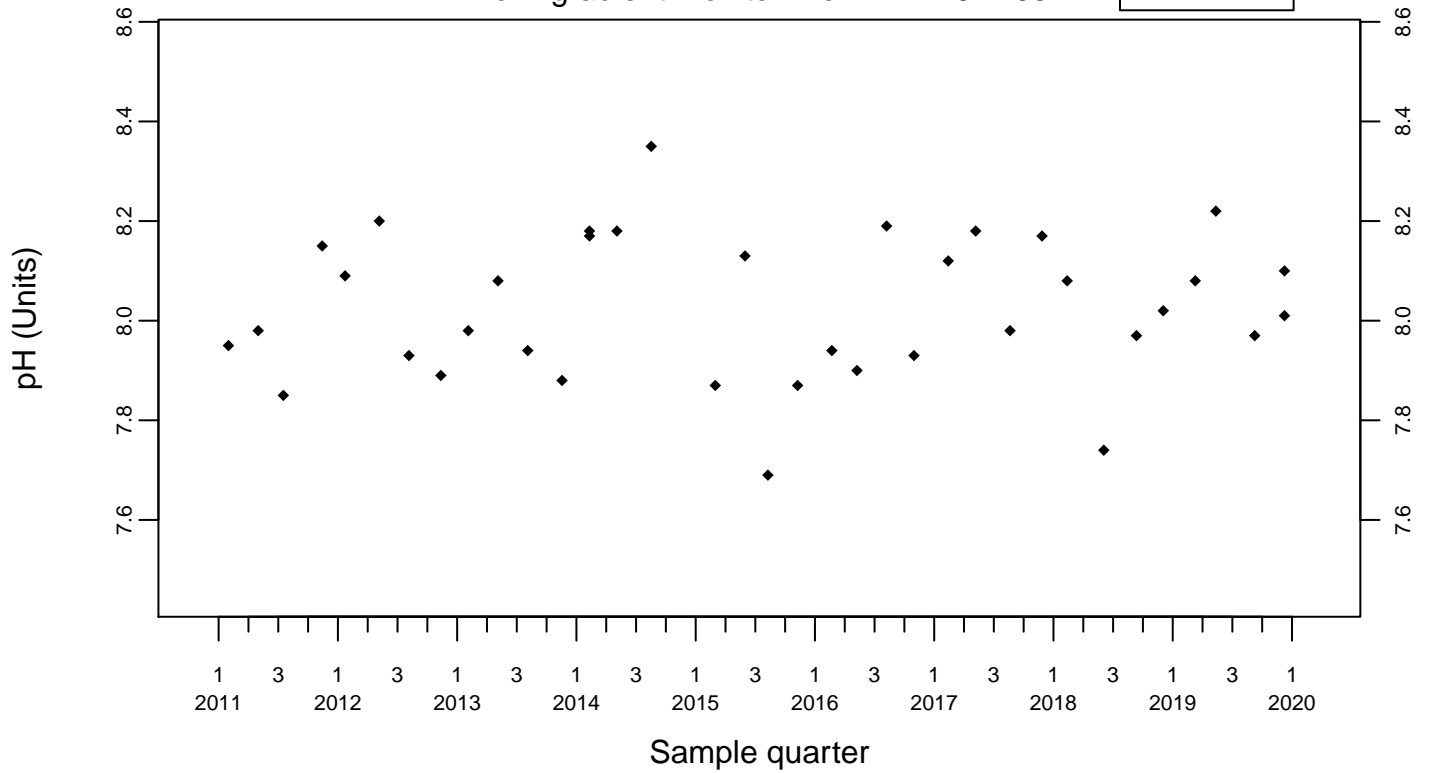
Downgradient Monitor Well W-26R-01



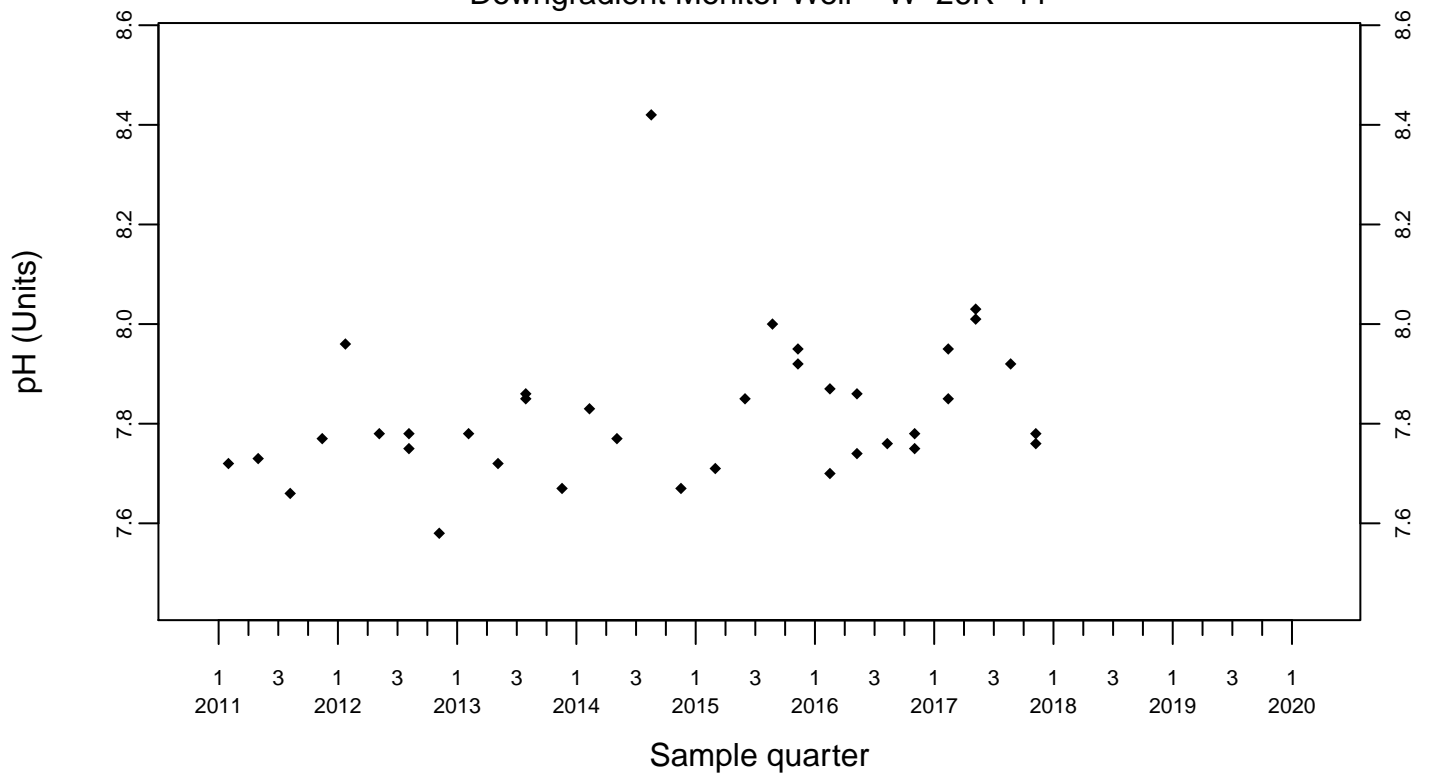
Sewage Ponds Ground Water pH (Units)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL

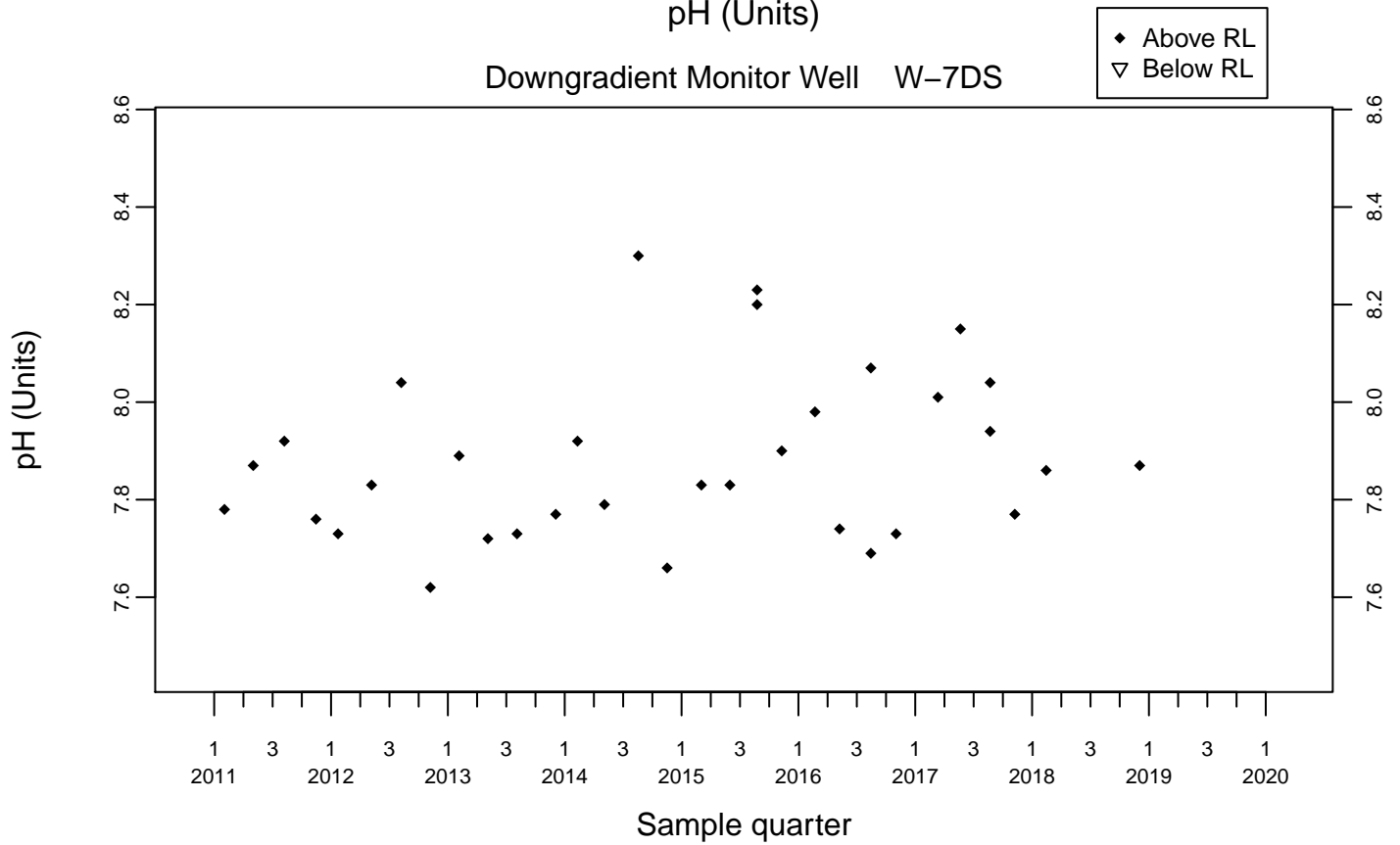


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water pH (Units)

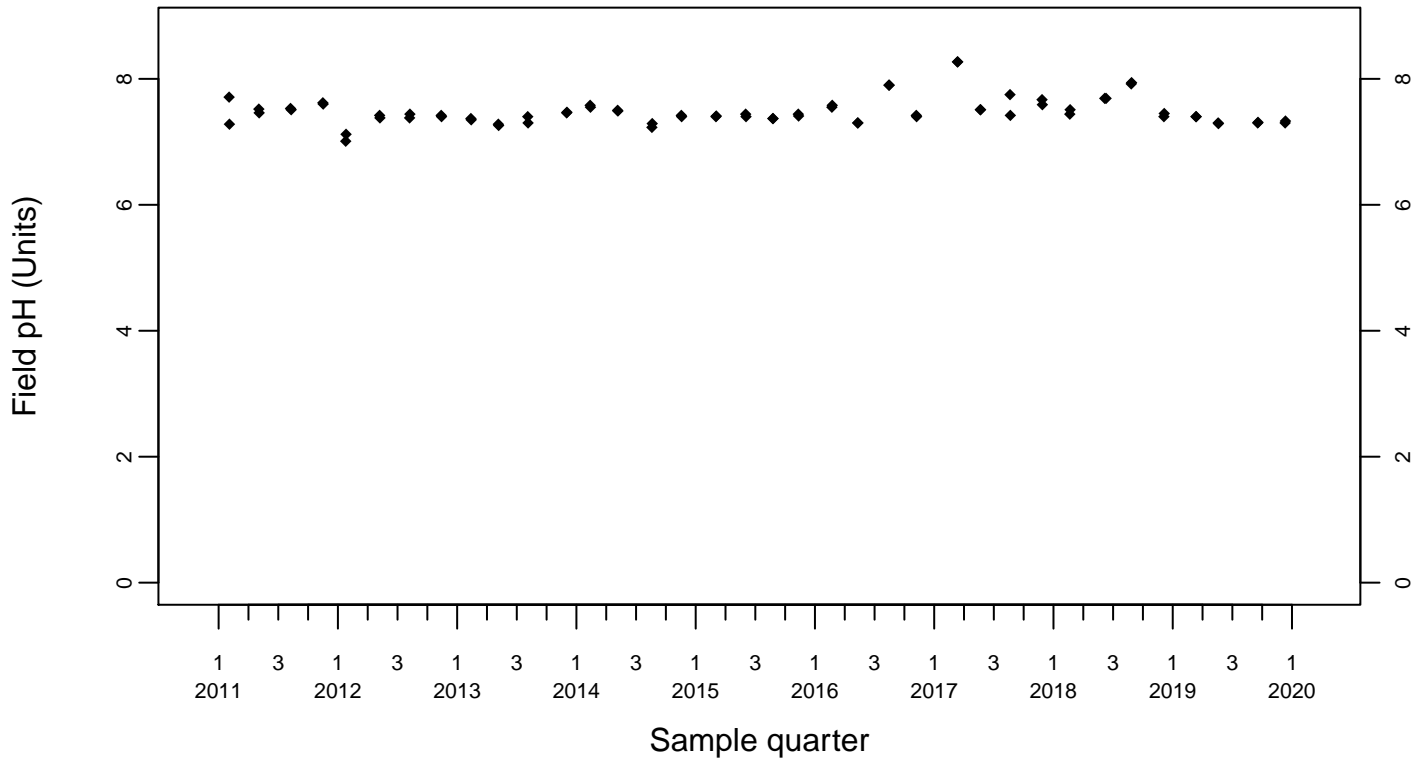
Downgradient Monitor Well W-7DS



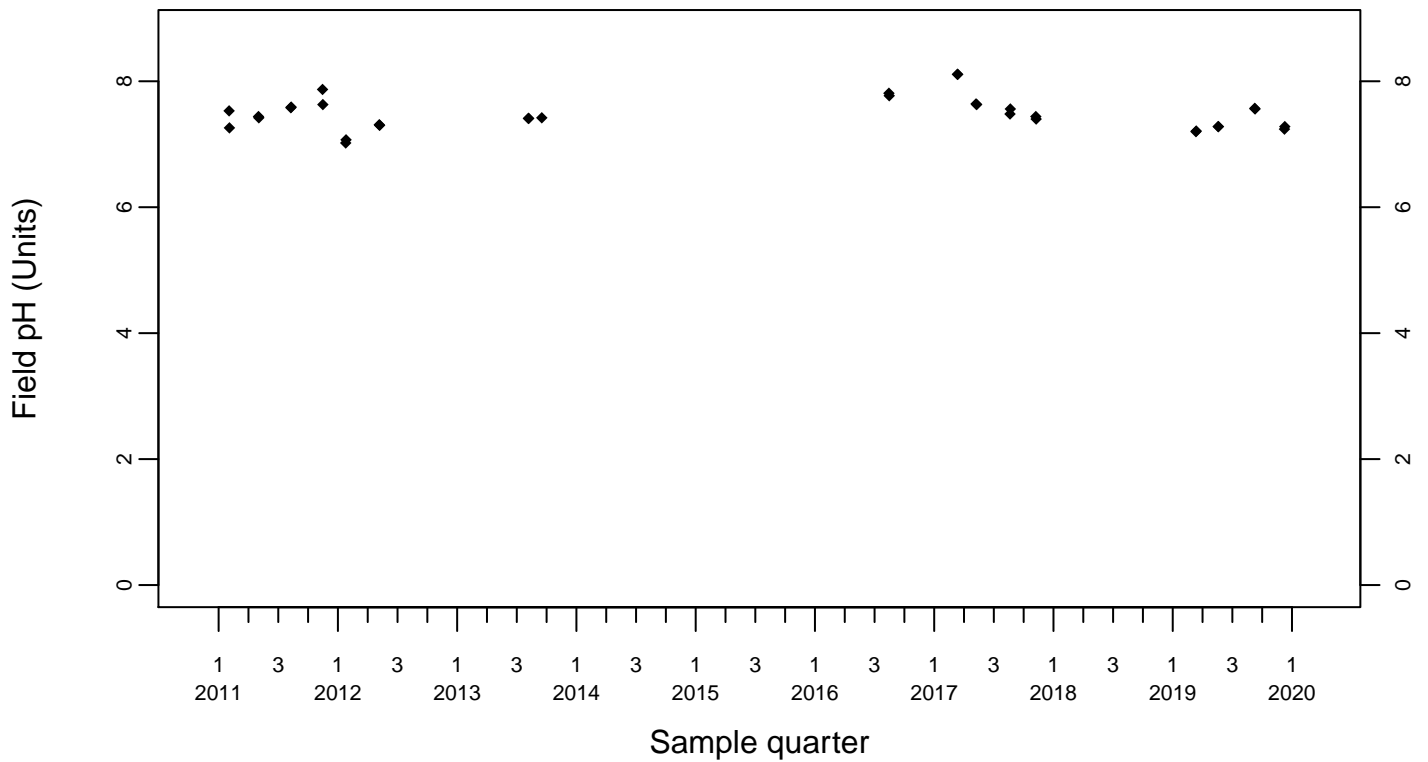
Sewage Ponds Ground Water
Field pH (Units)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



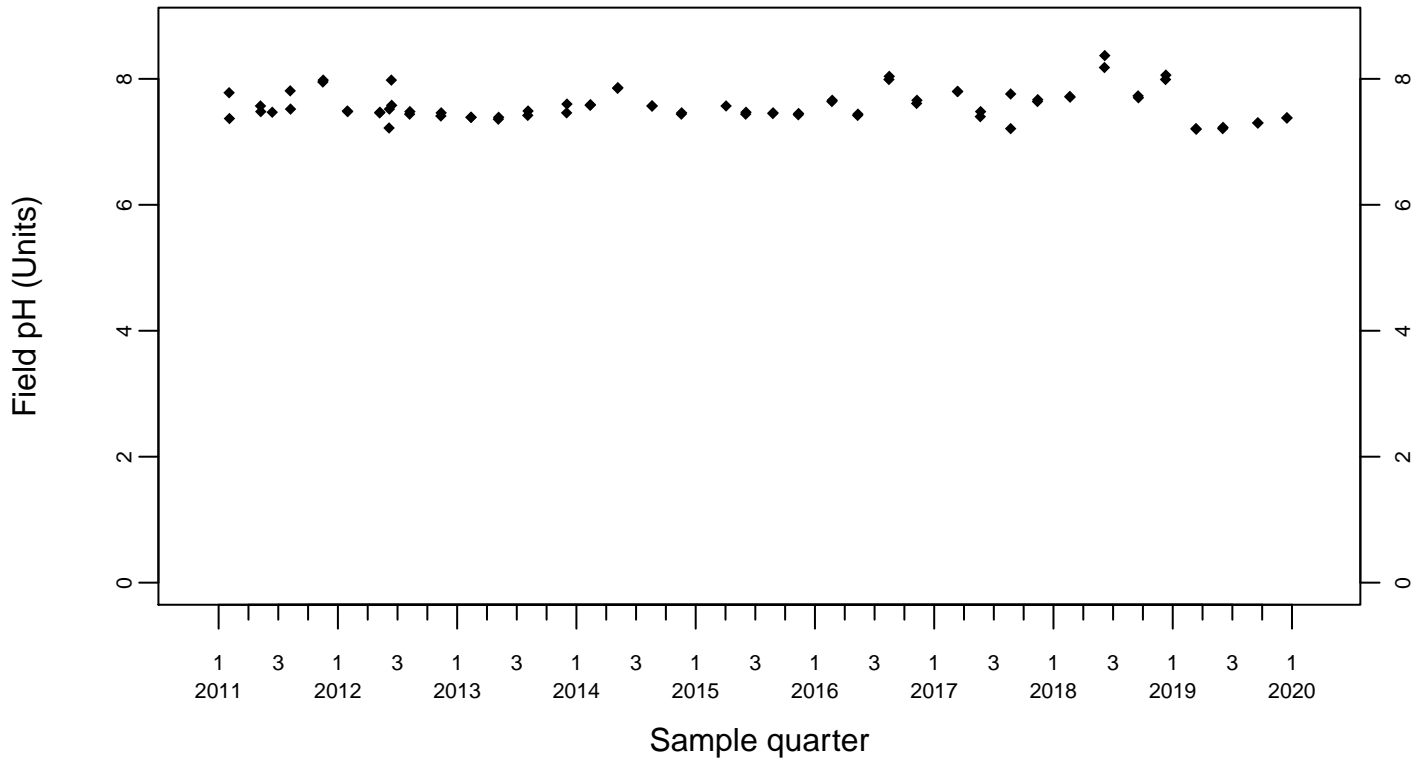
Upgradient Monitor Well W-7PS



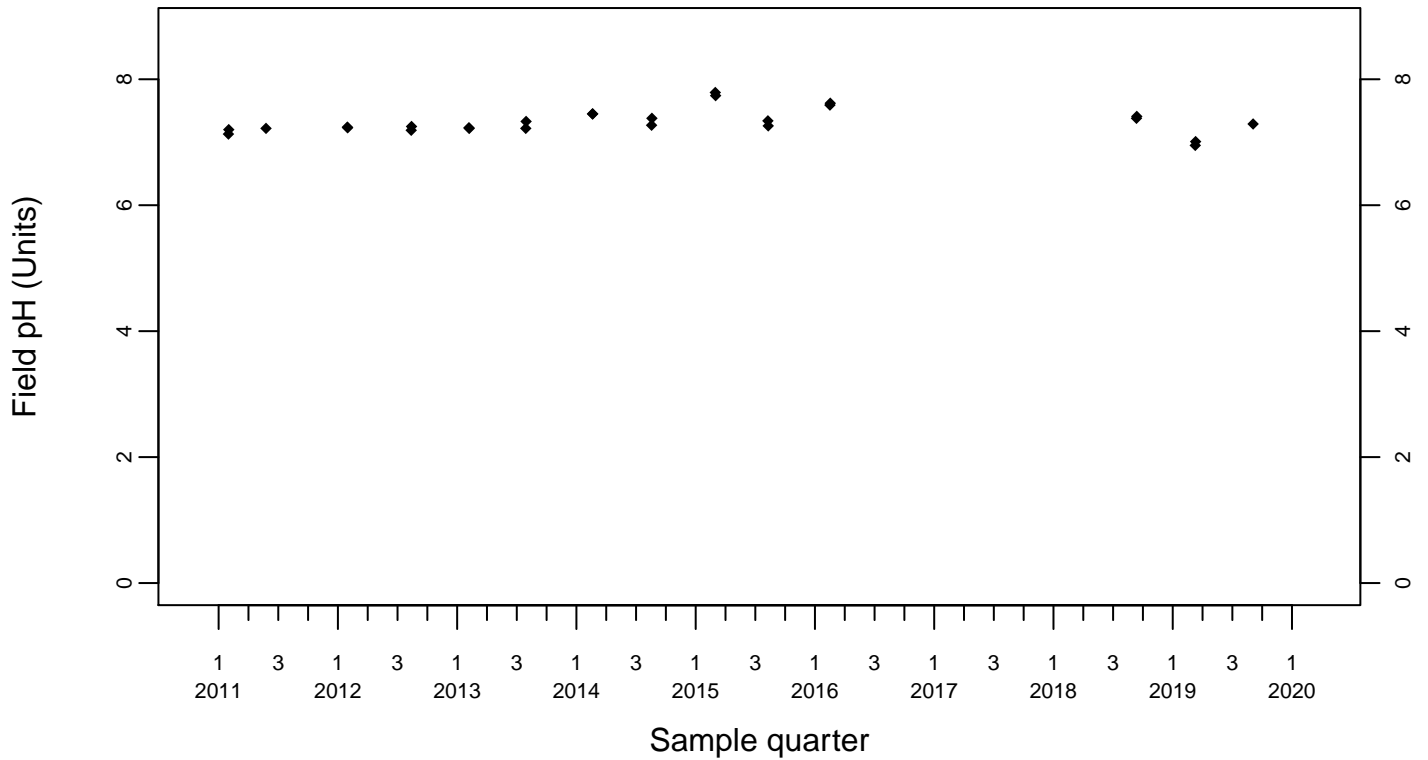
Sewage Ponds Ground Water
Field pH (Units)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



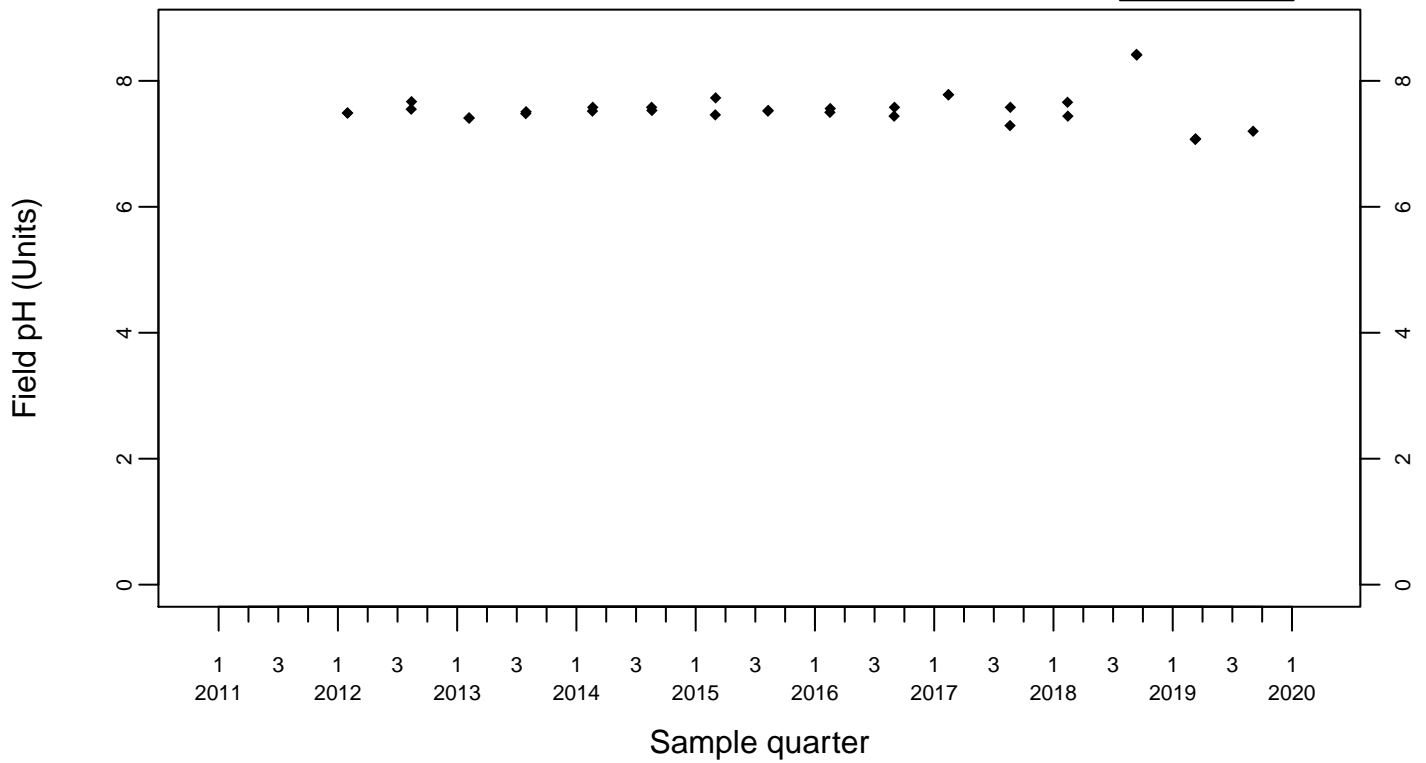
Downgradient Monitor Well W-25N-23



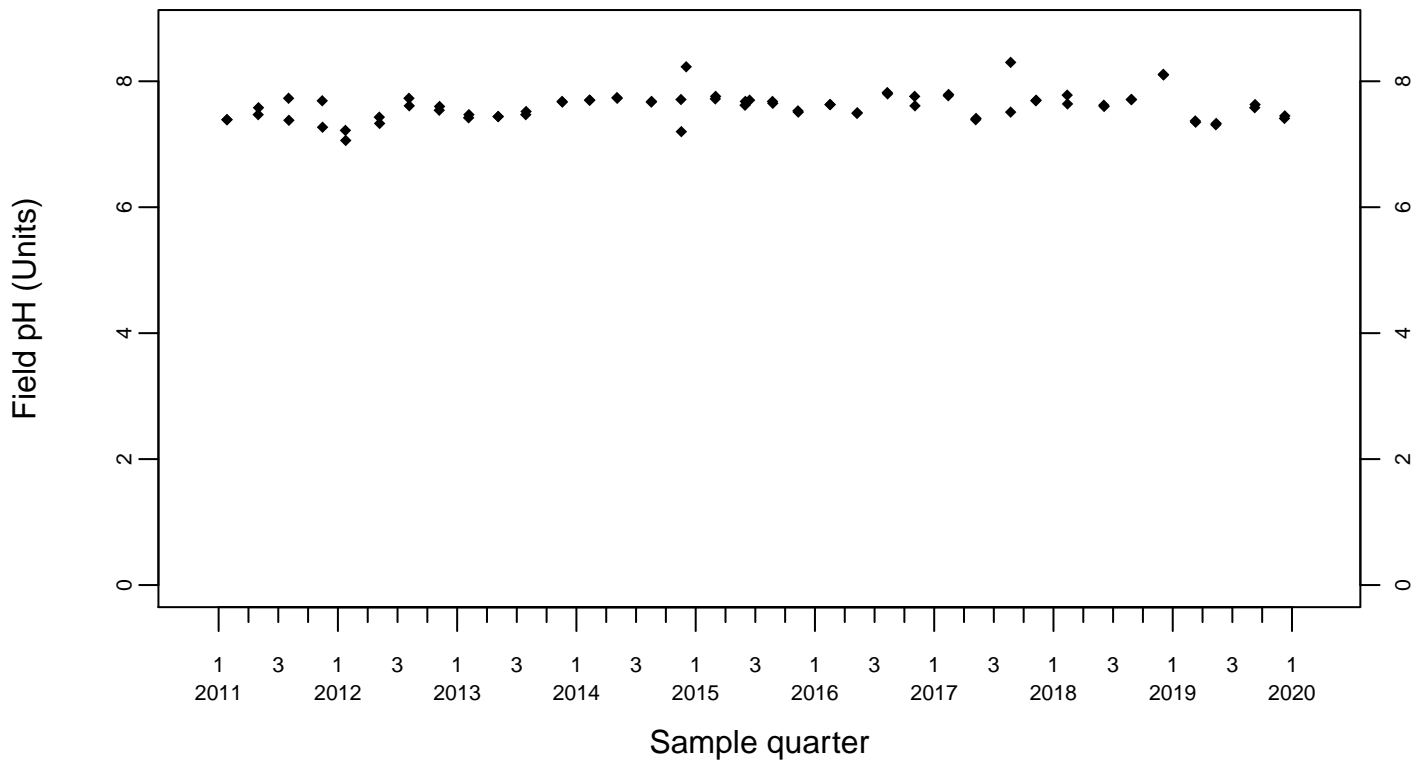
Sewage Ponds Ground Water
Field pH (Units)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



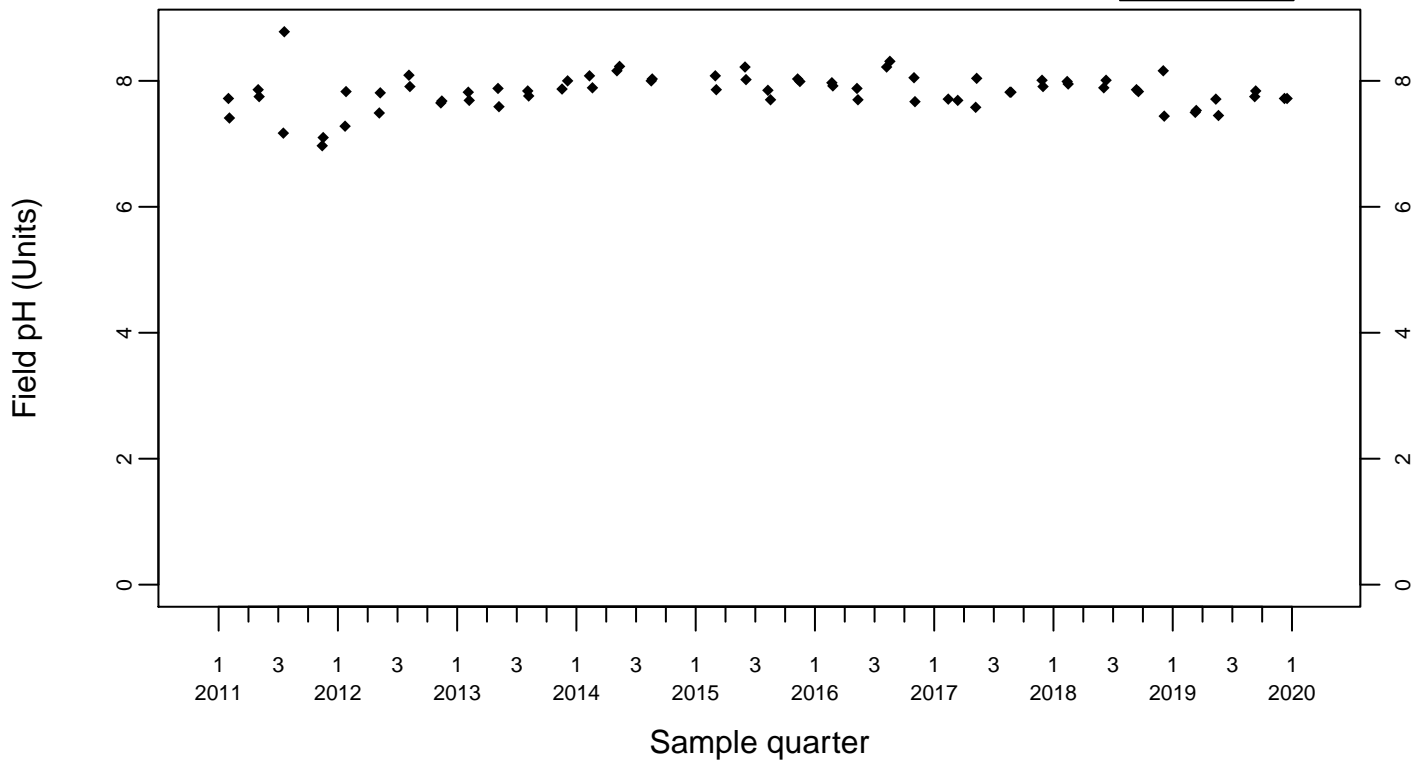
Downgradient Monitor Well W-26R-01



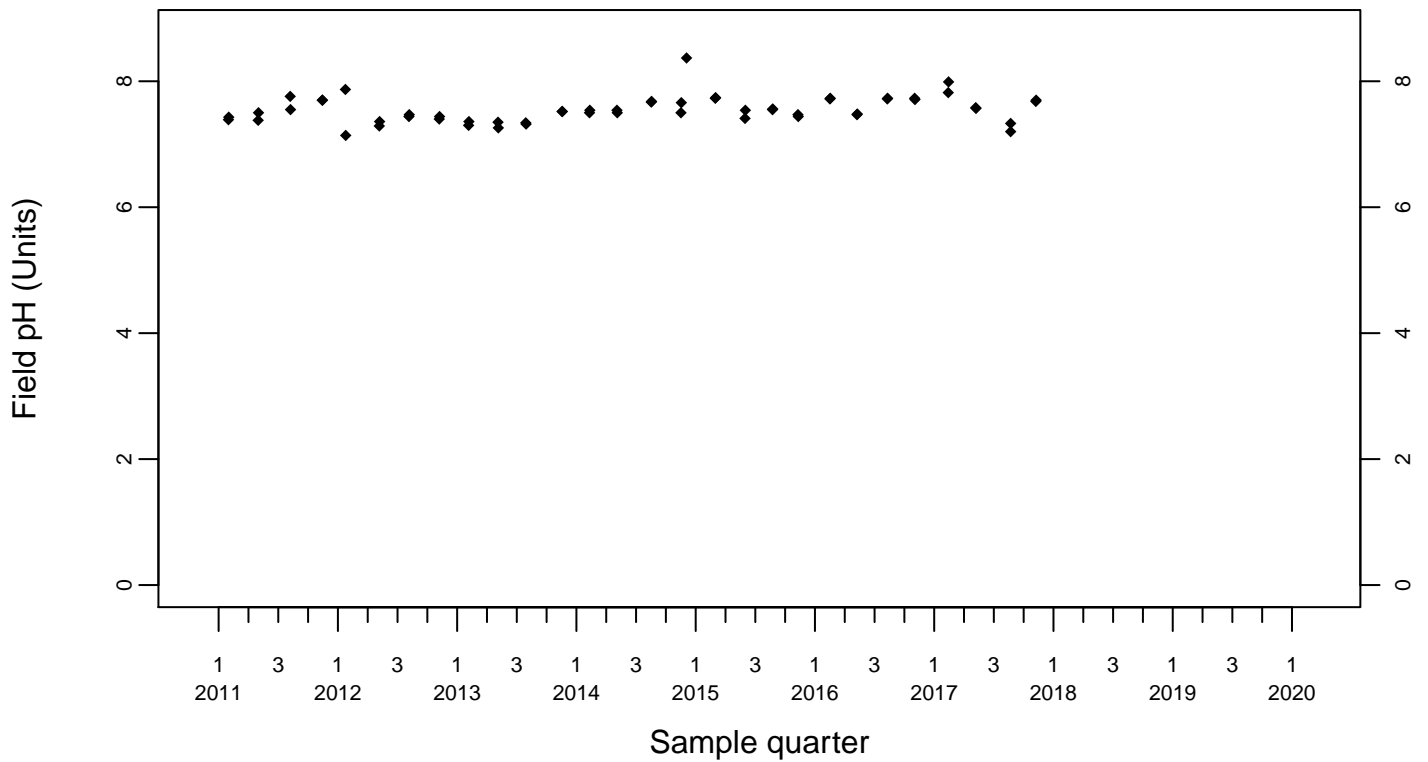
Sewage Ponds Ground Water
Field pH (Units)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



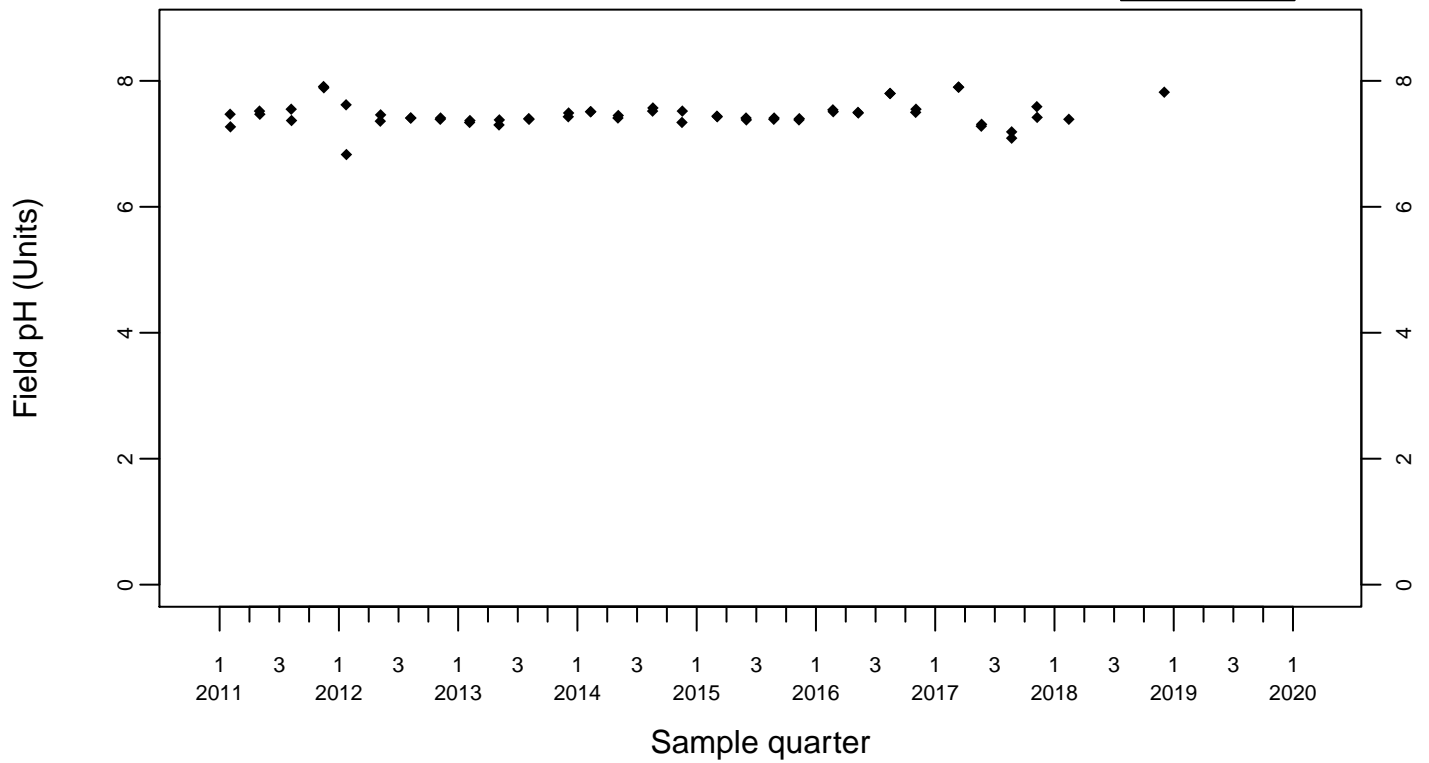
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Field pH (Units)

Downgradient Monitor Well W-7DS

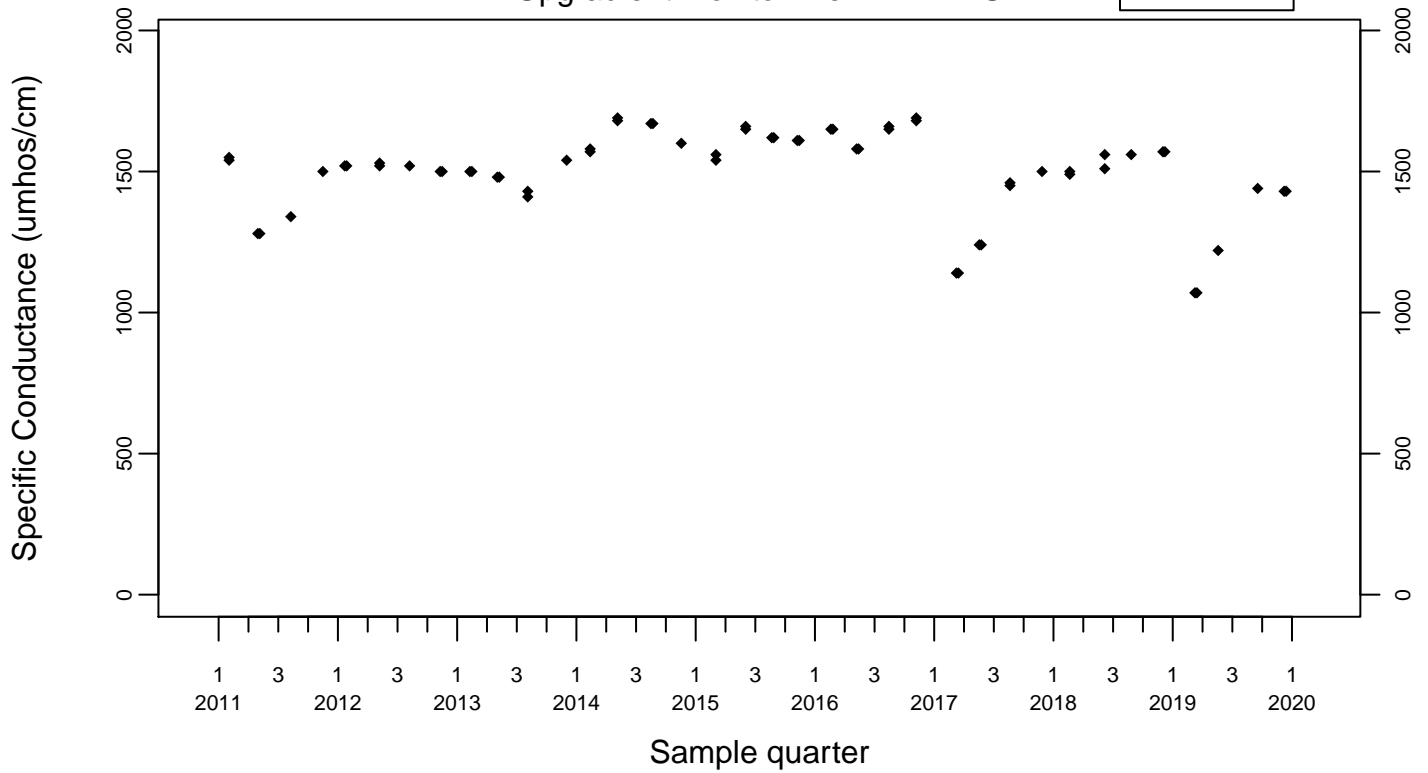
◆ Above RL
▽ Below RL



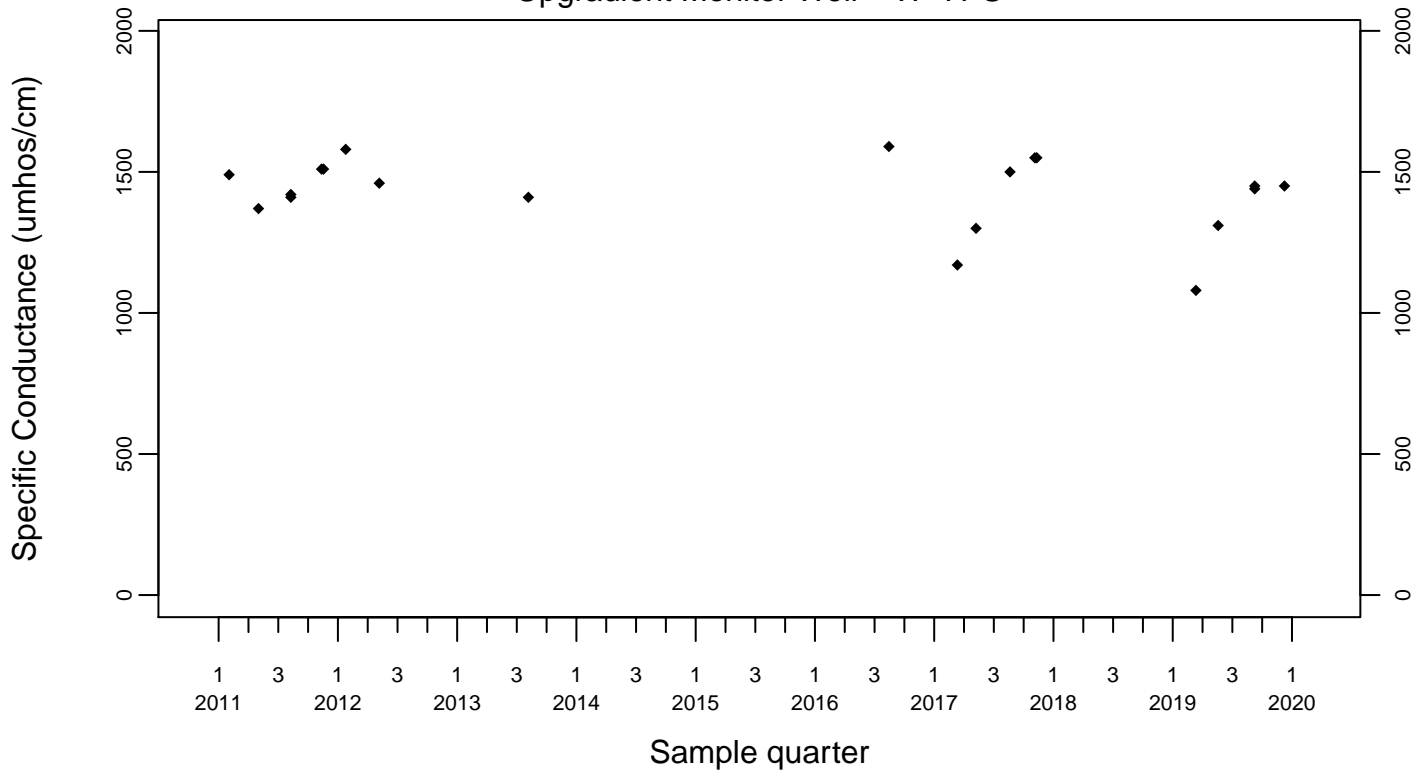
Sewage Ponds Ground Water
Specific Conductance (umhos/cm)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



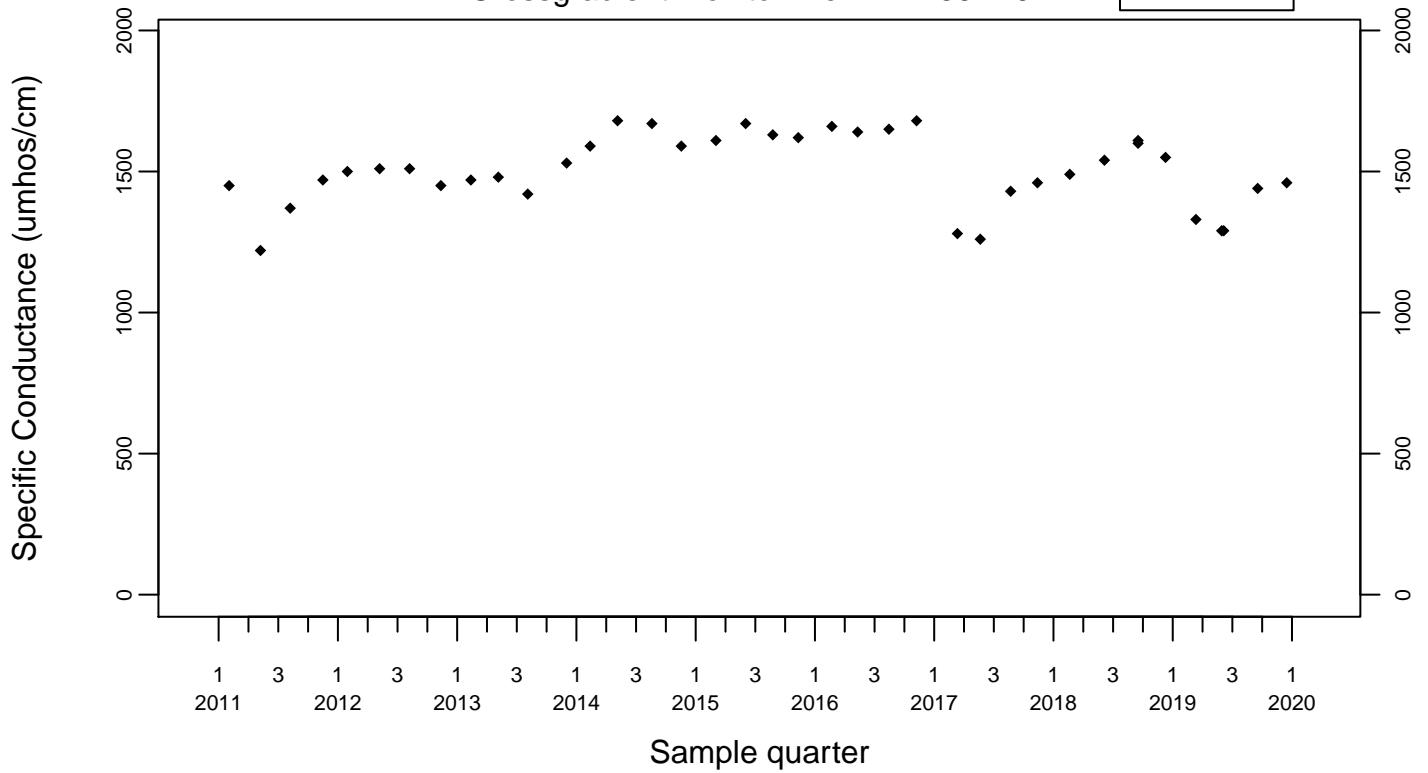
Upgradient Monitor Well W-7PS



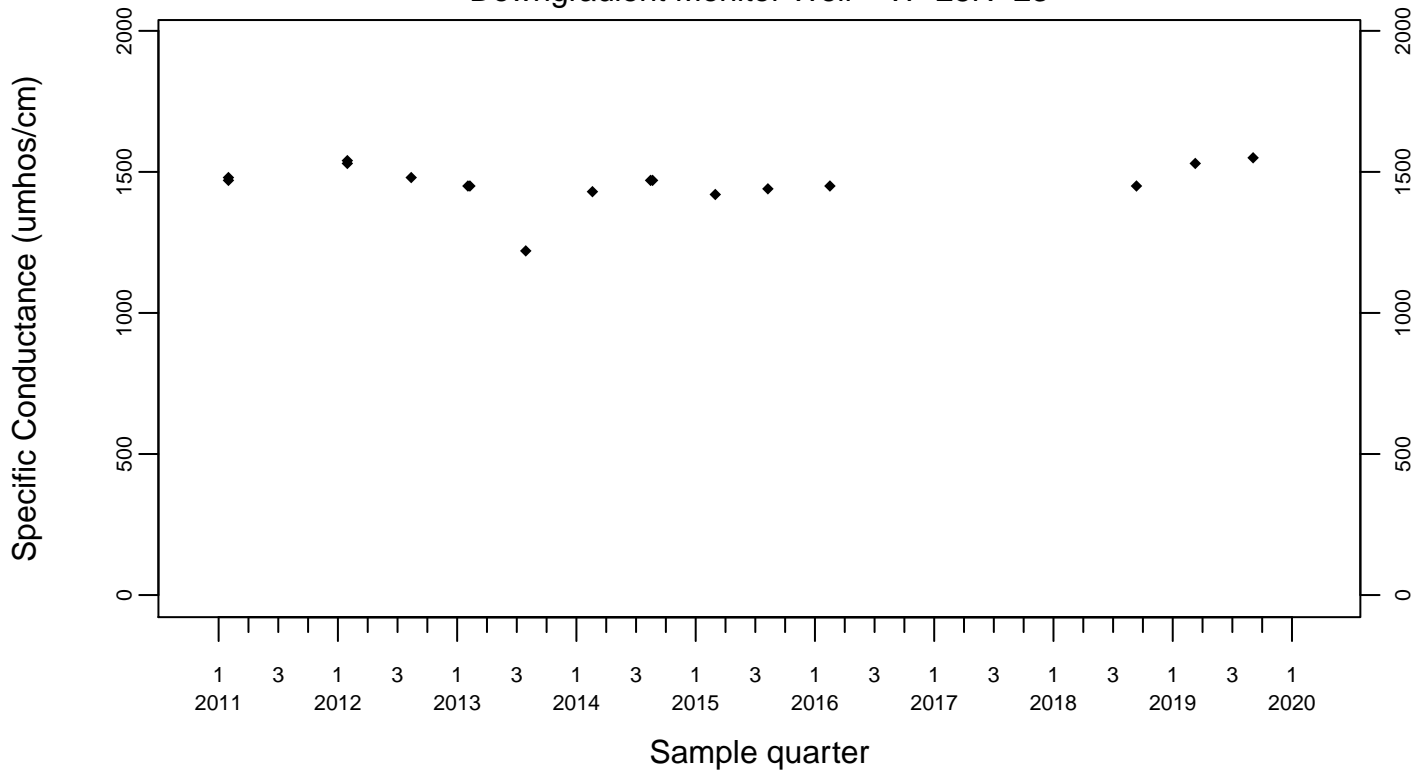
Sewage Ponds Ground Water
Specific Conductance (umhos/cm)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



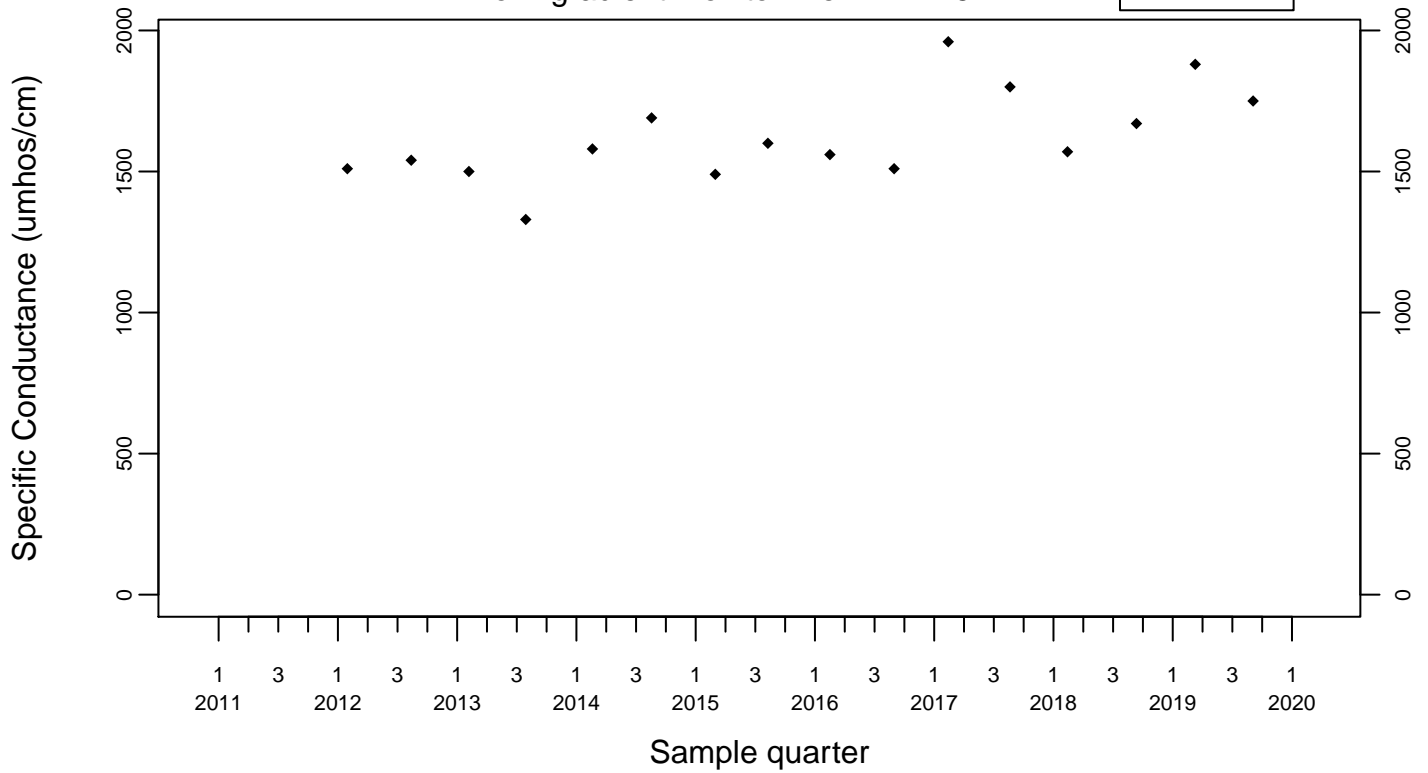
Downgradient Monitor Well W-25N-23



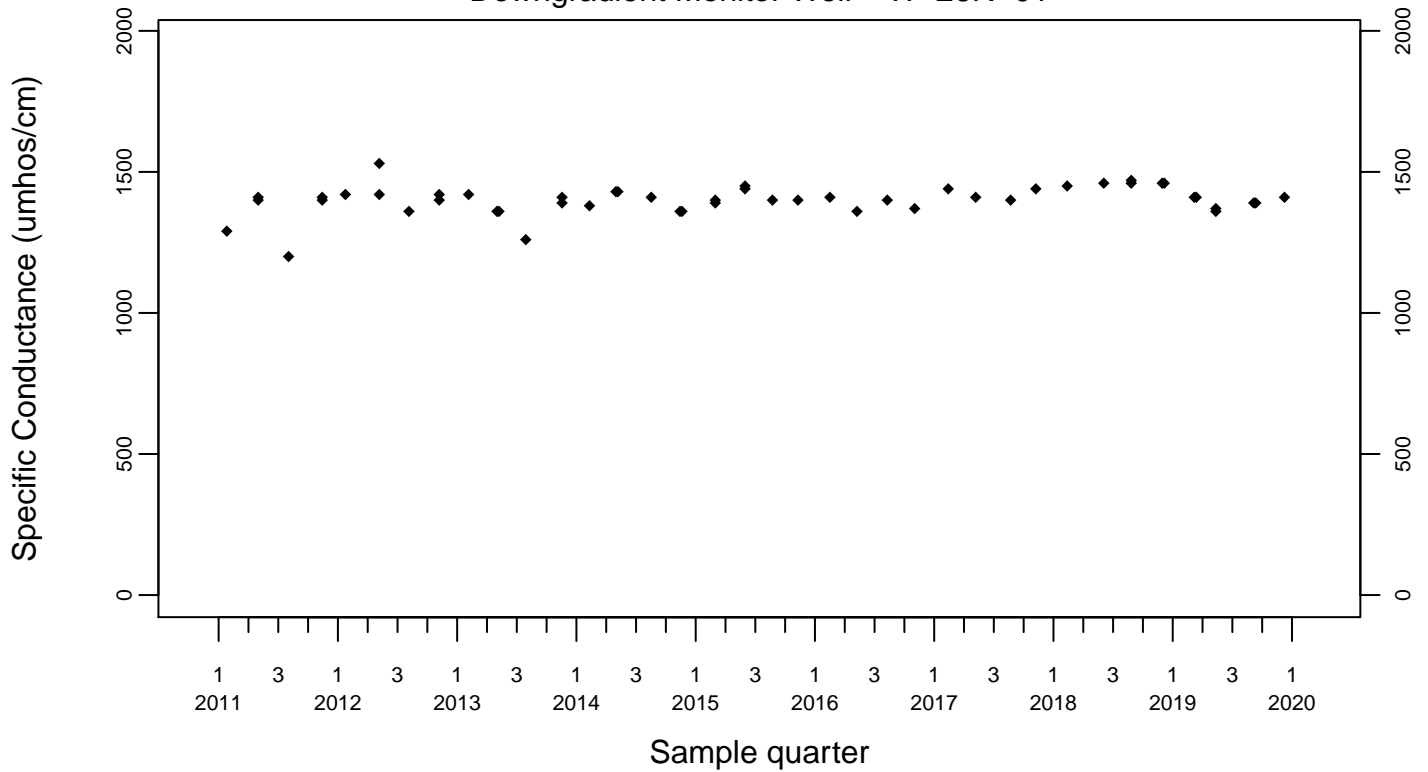
Sewage Ponds Ground Water
Specific Conductance (umhos/cm)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



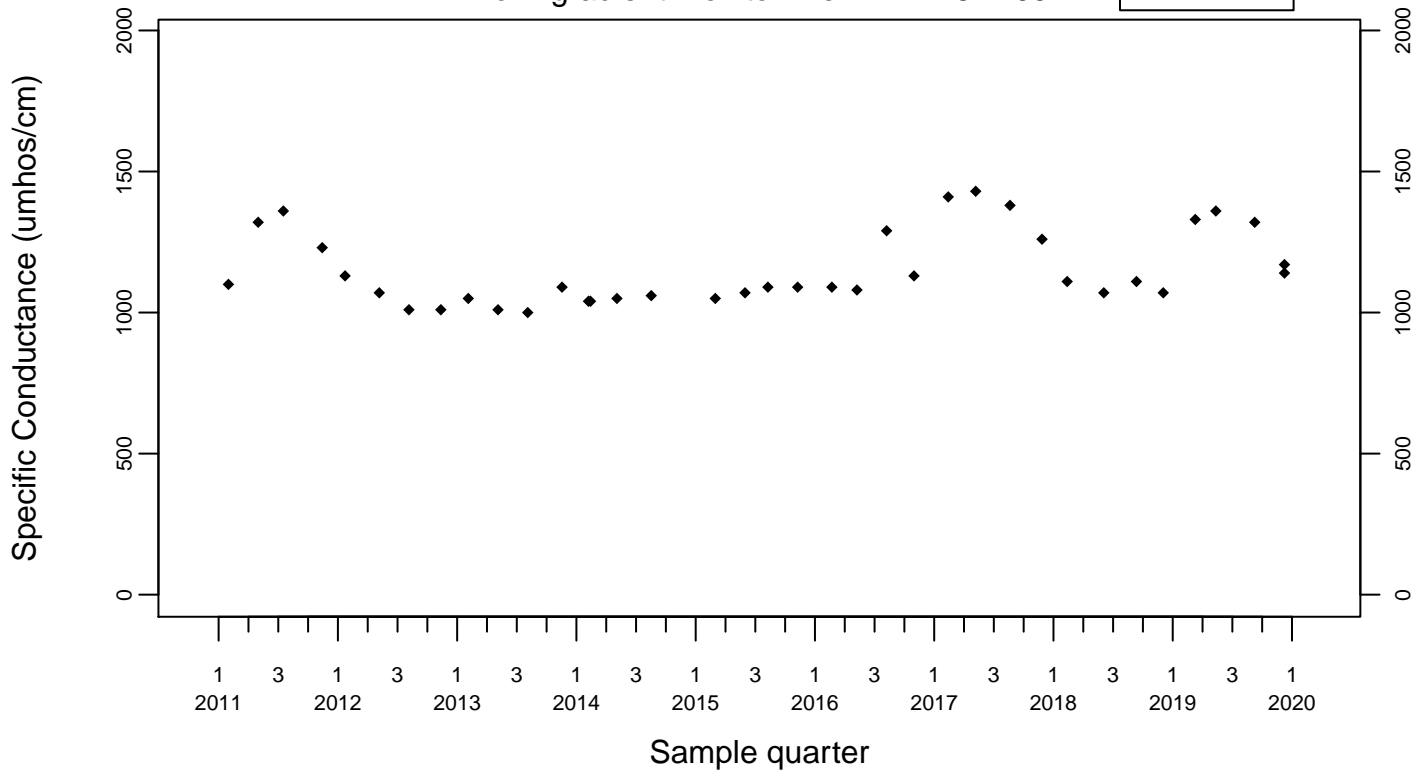
Downgradient Monitor Well W-26R-01



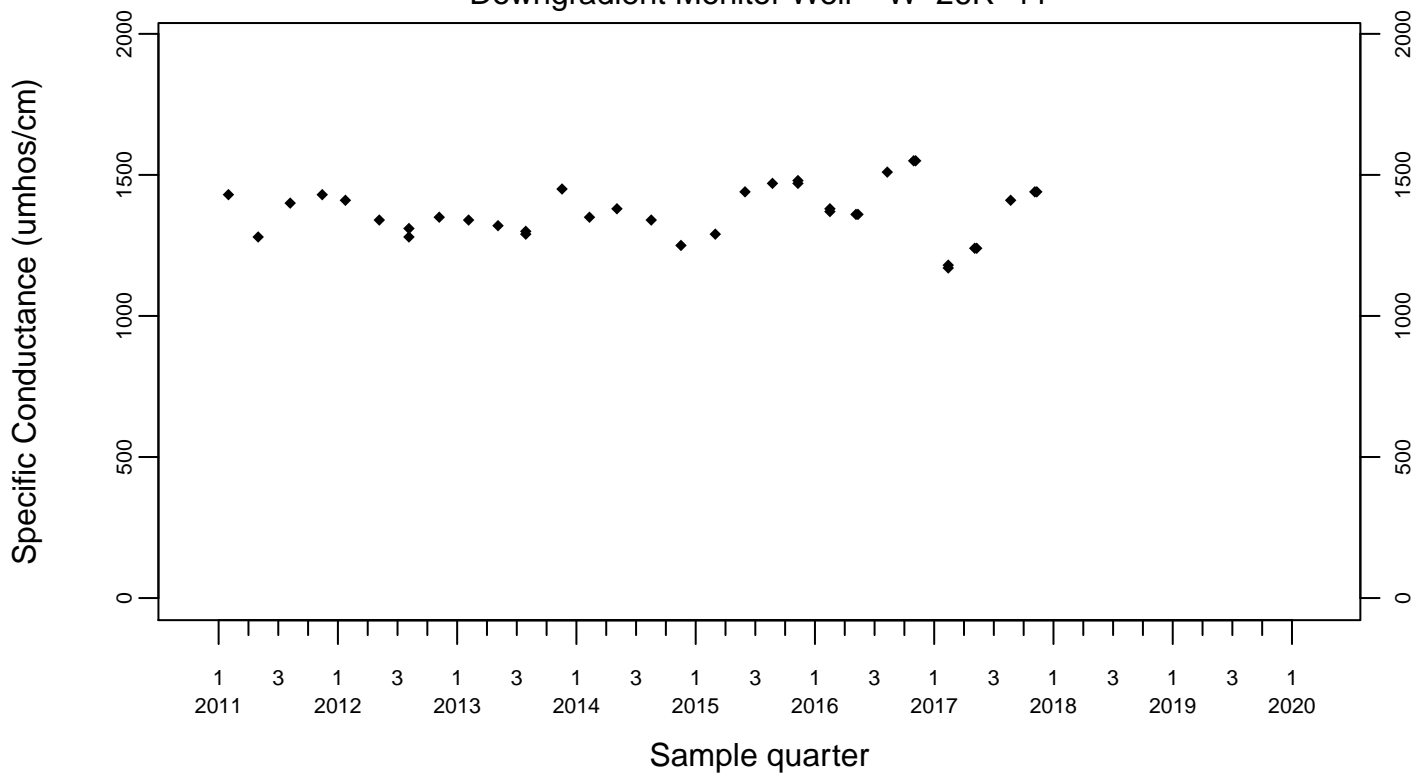
Sewage Ponds Ground Water
Specific Conductance (umhos/cm)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL

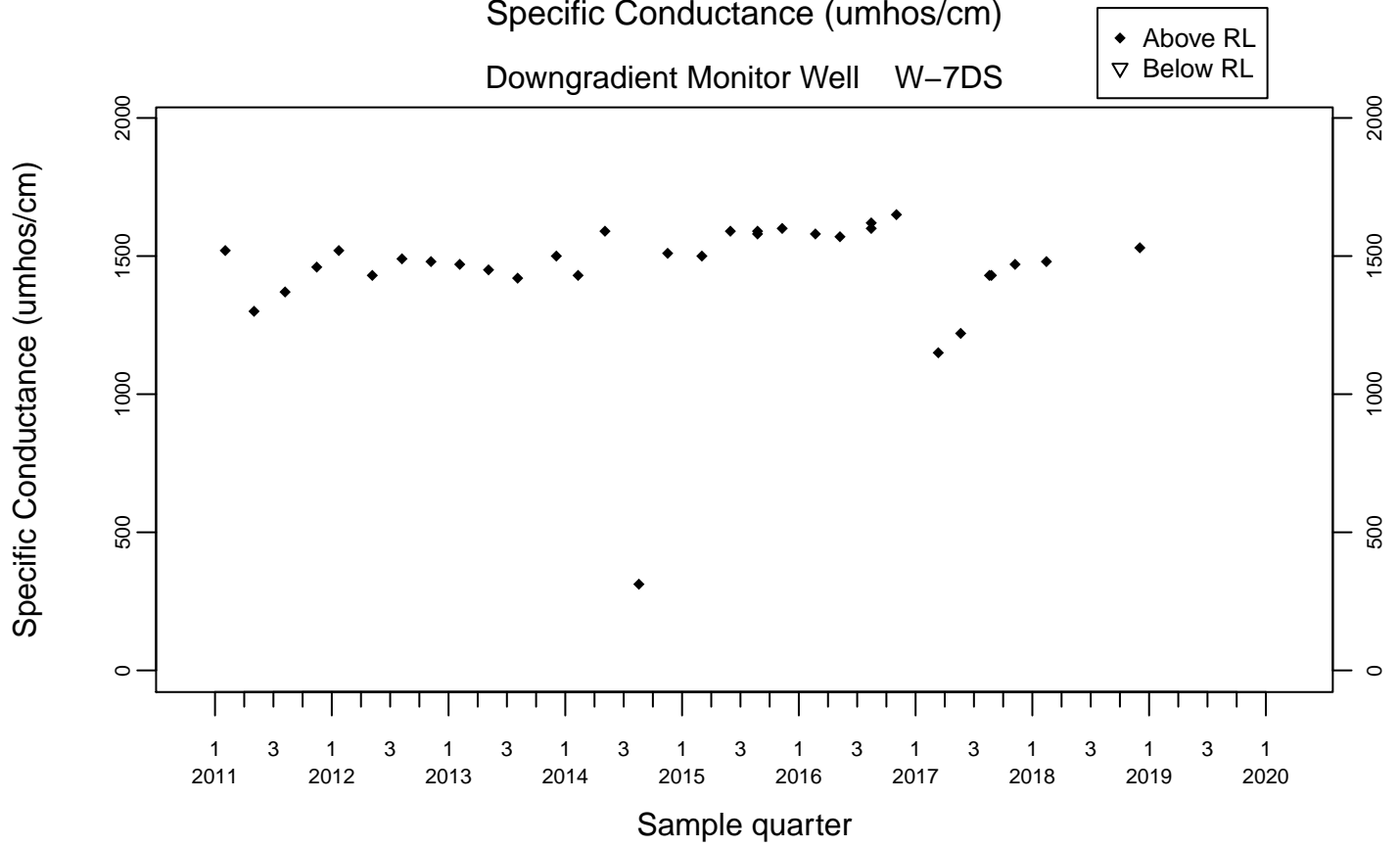


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Specific Conductance (umhos/cm)

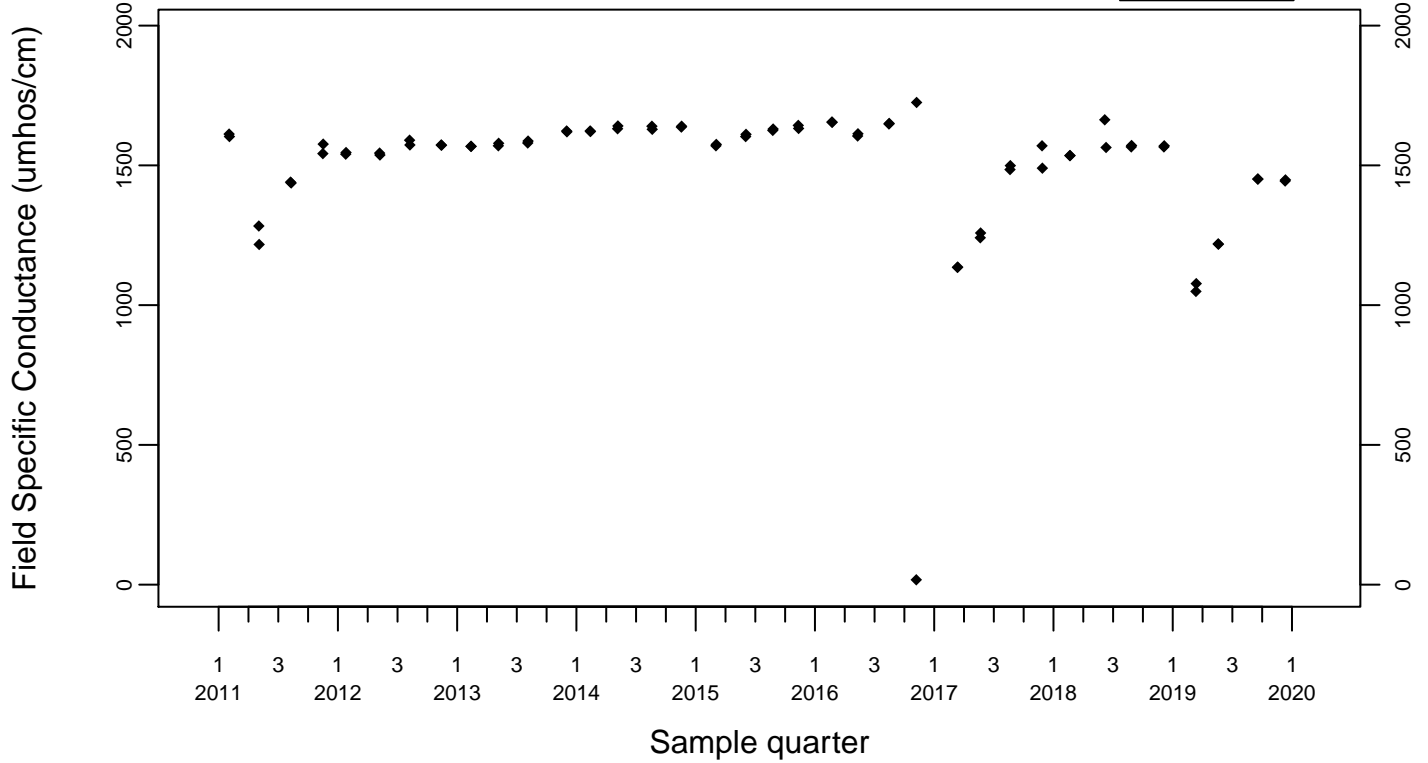
Downgradient Monitor Well W-7DS



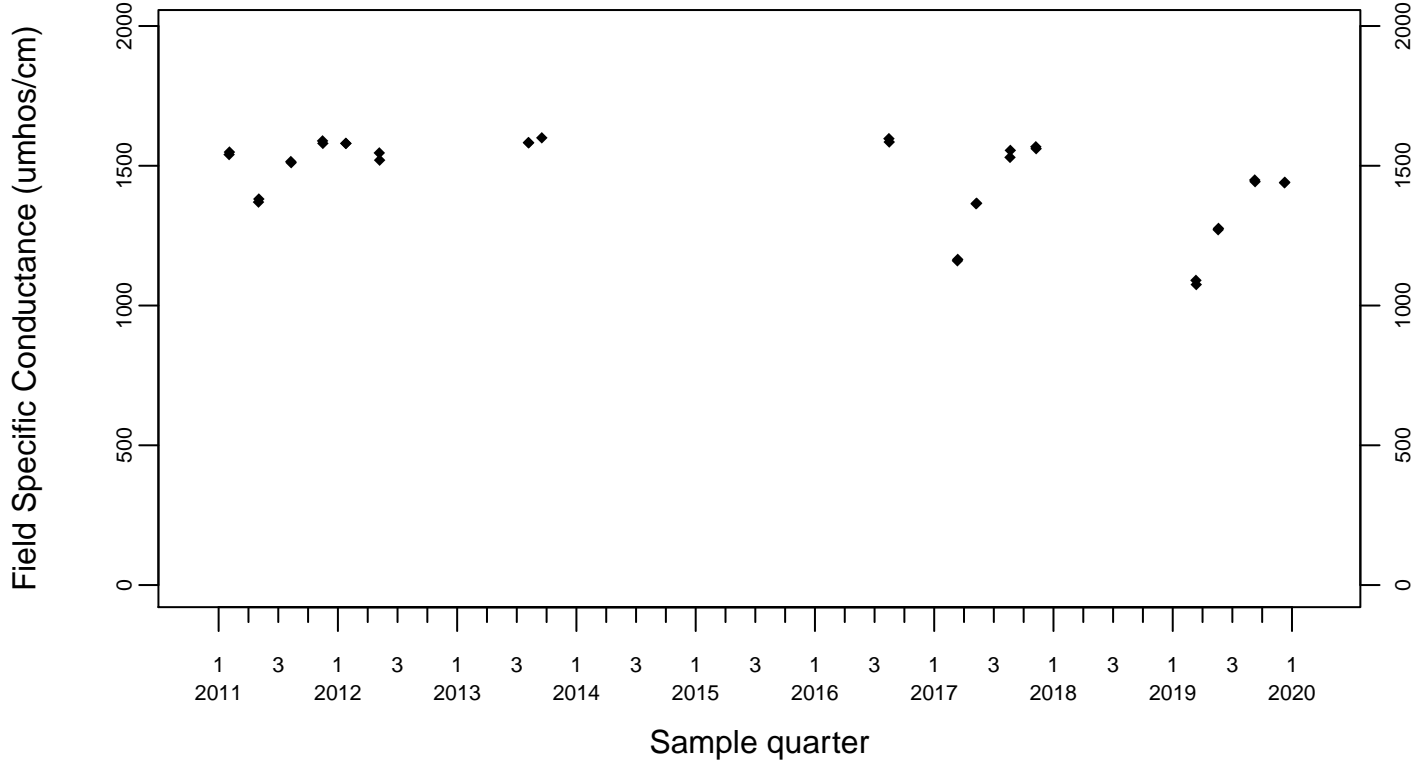
Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



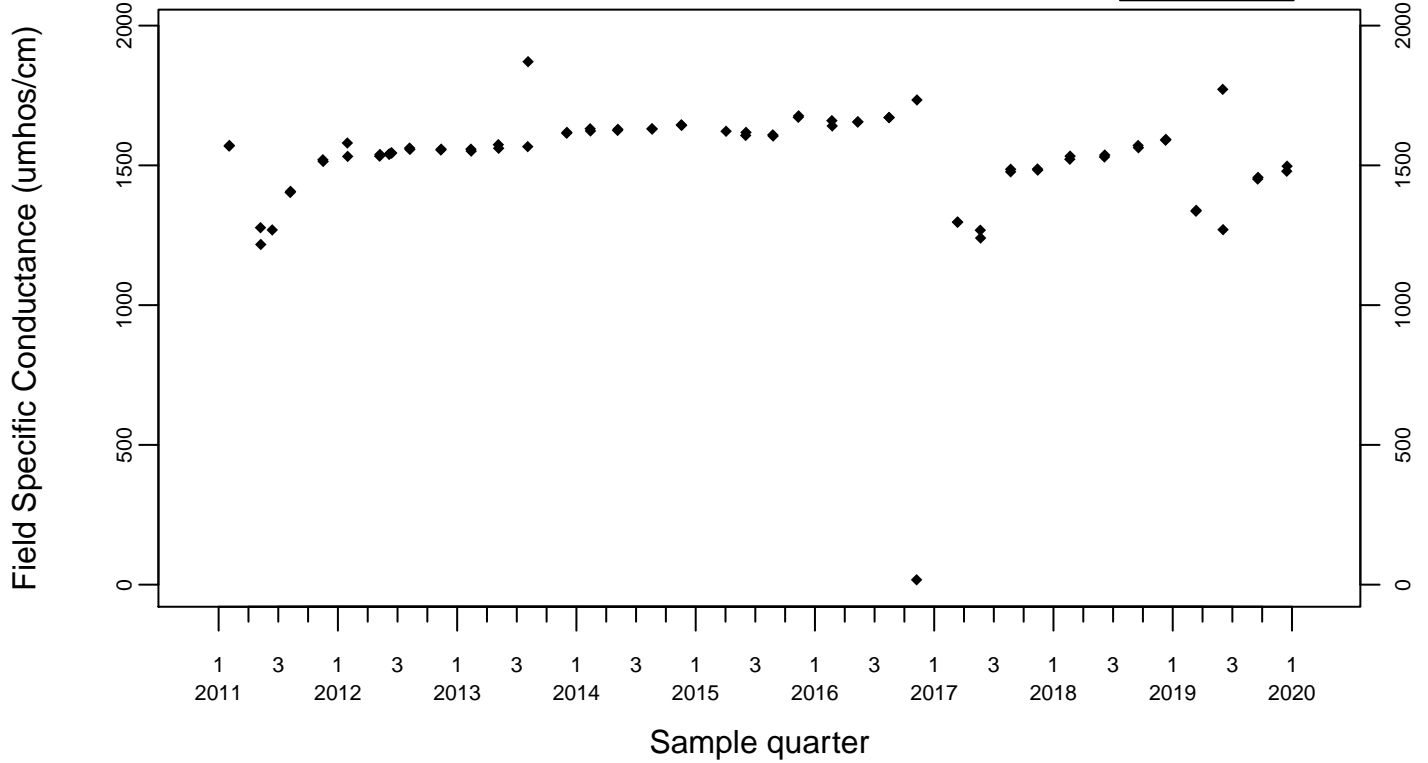
Upgradient Monitor Well W-7PS



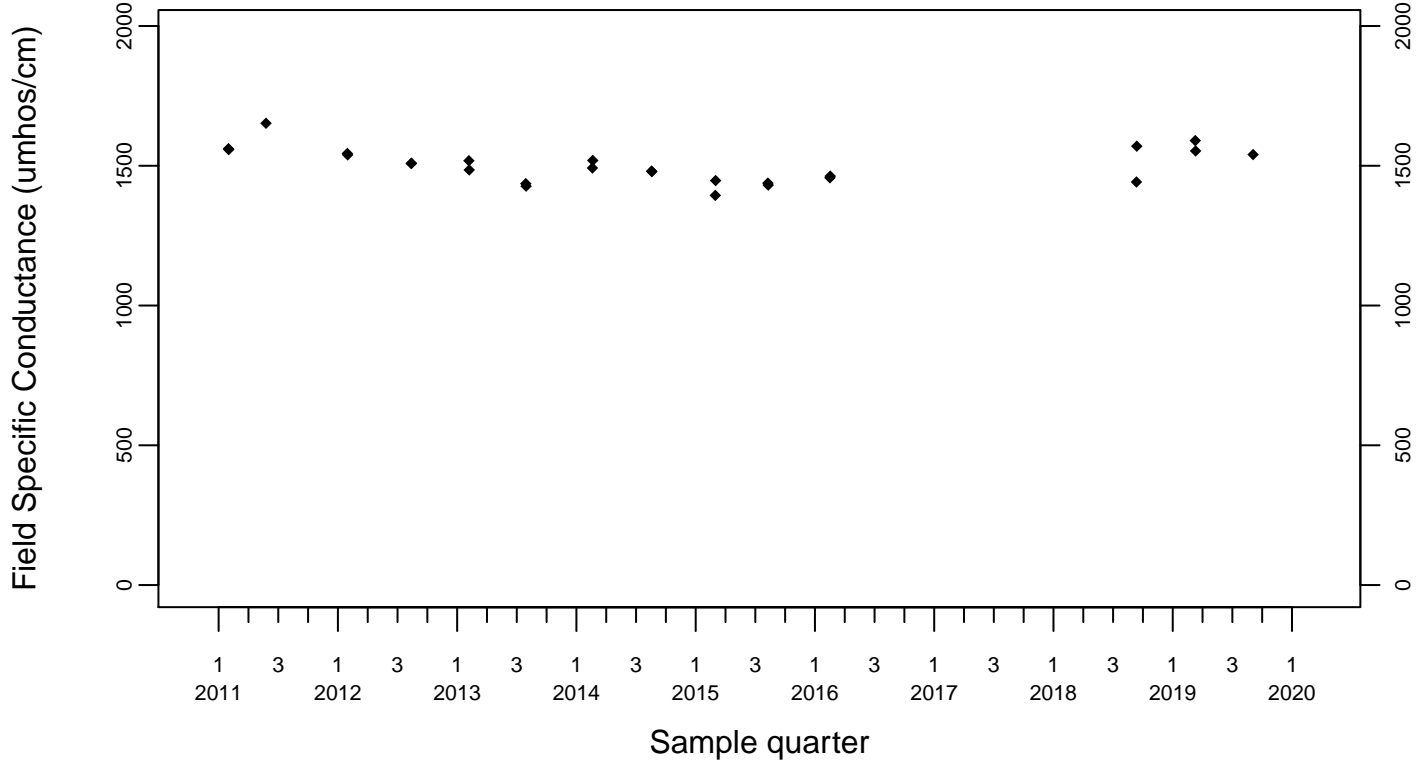
Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



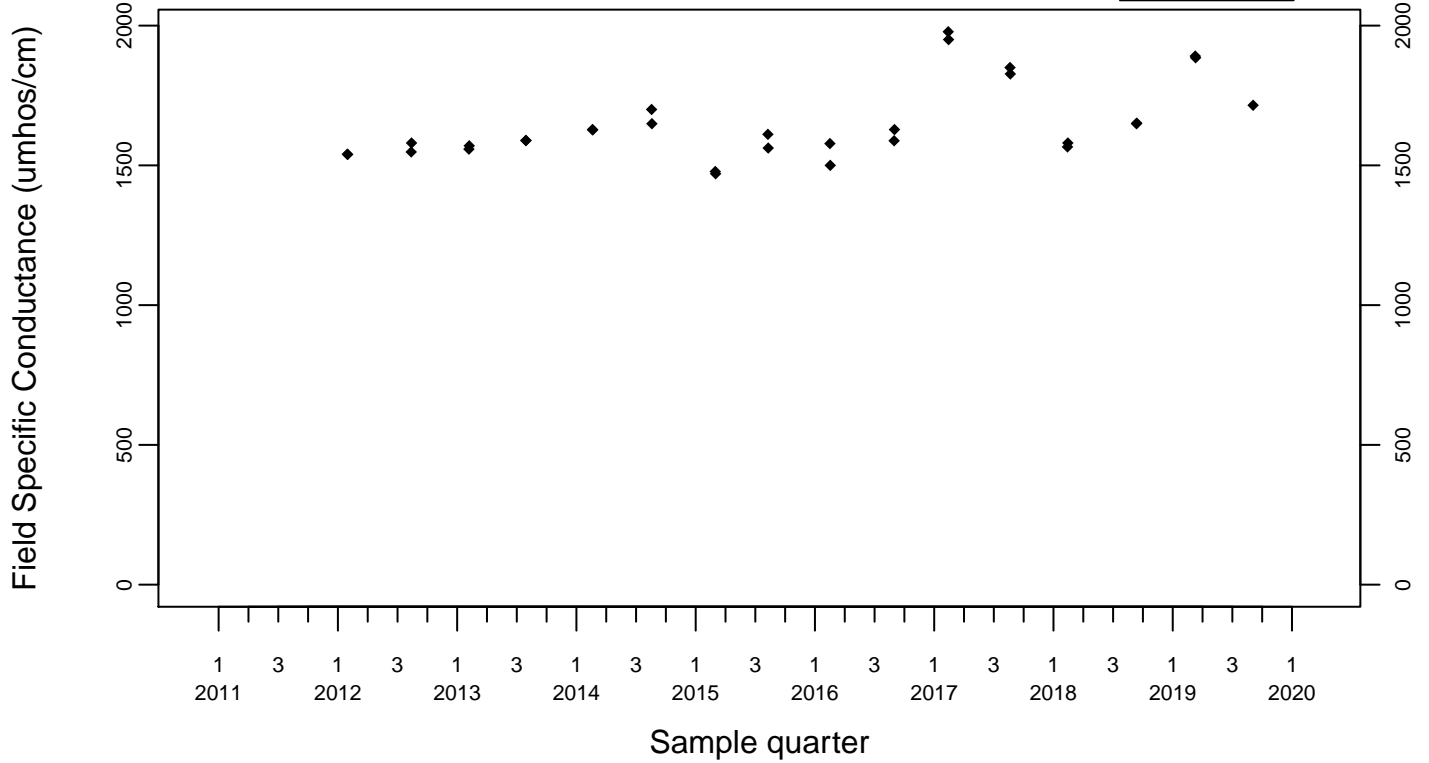
Downgradient Monitor Well W-25N-23



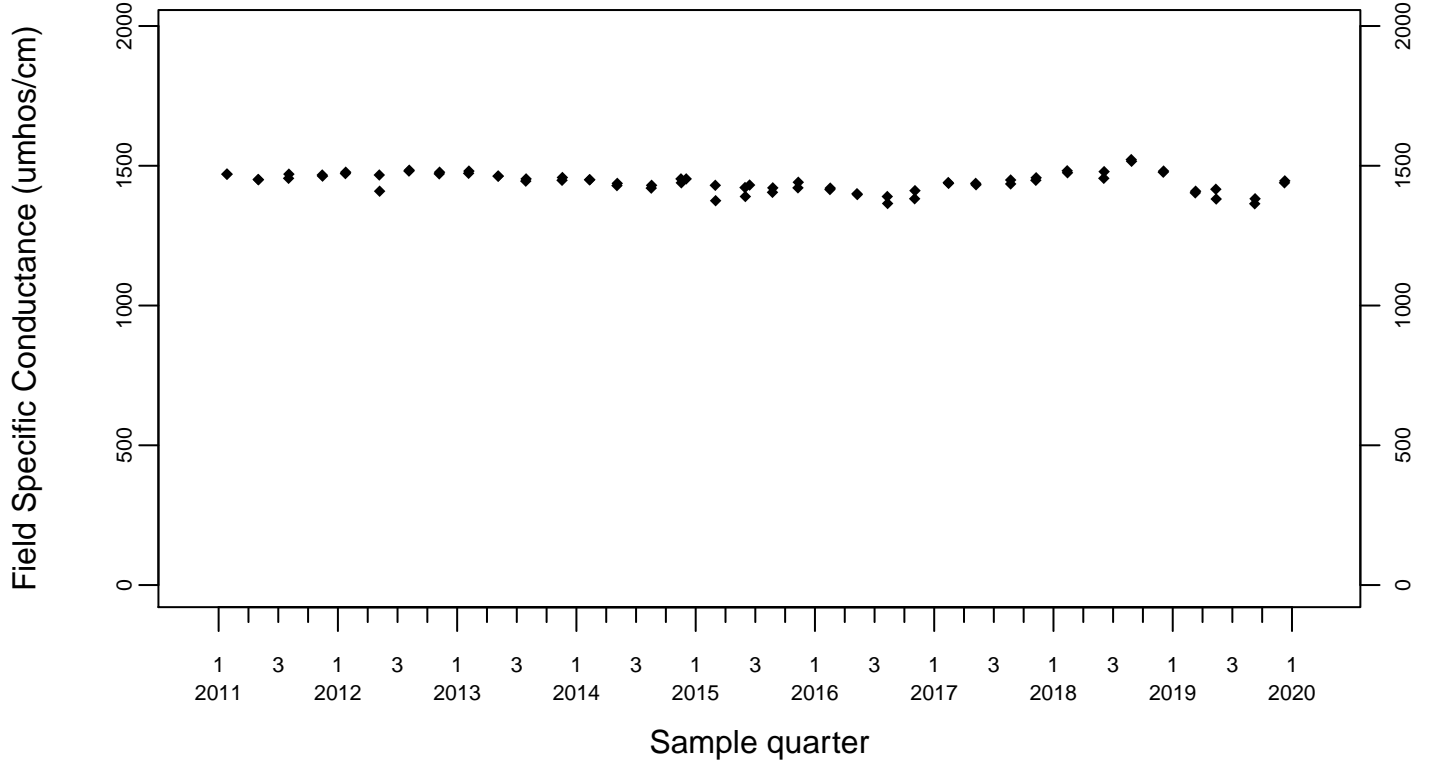
Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



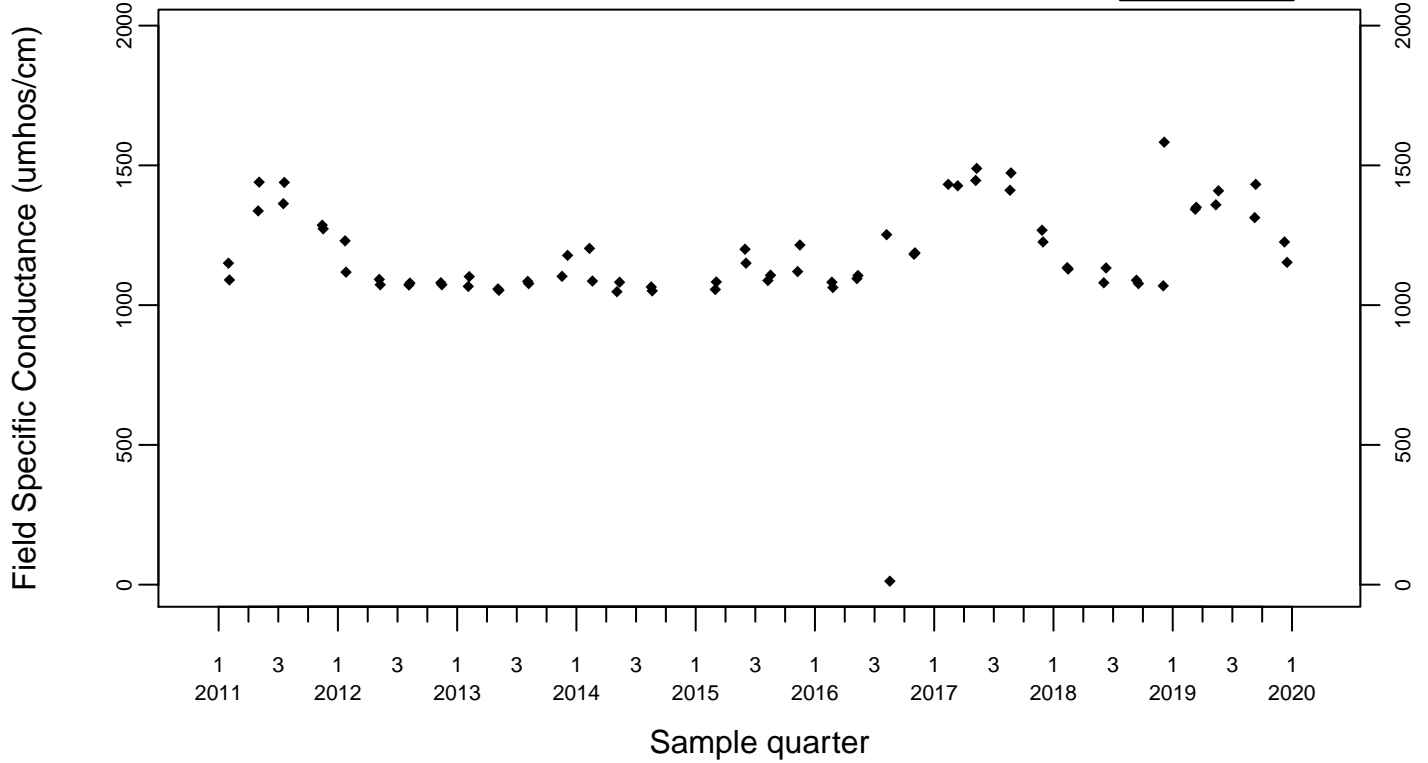
Downgradient Monitor Well W-26R-01



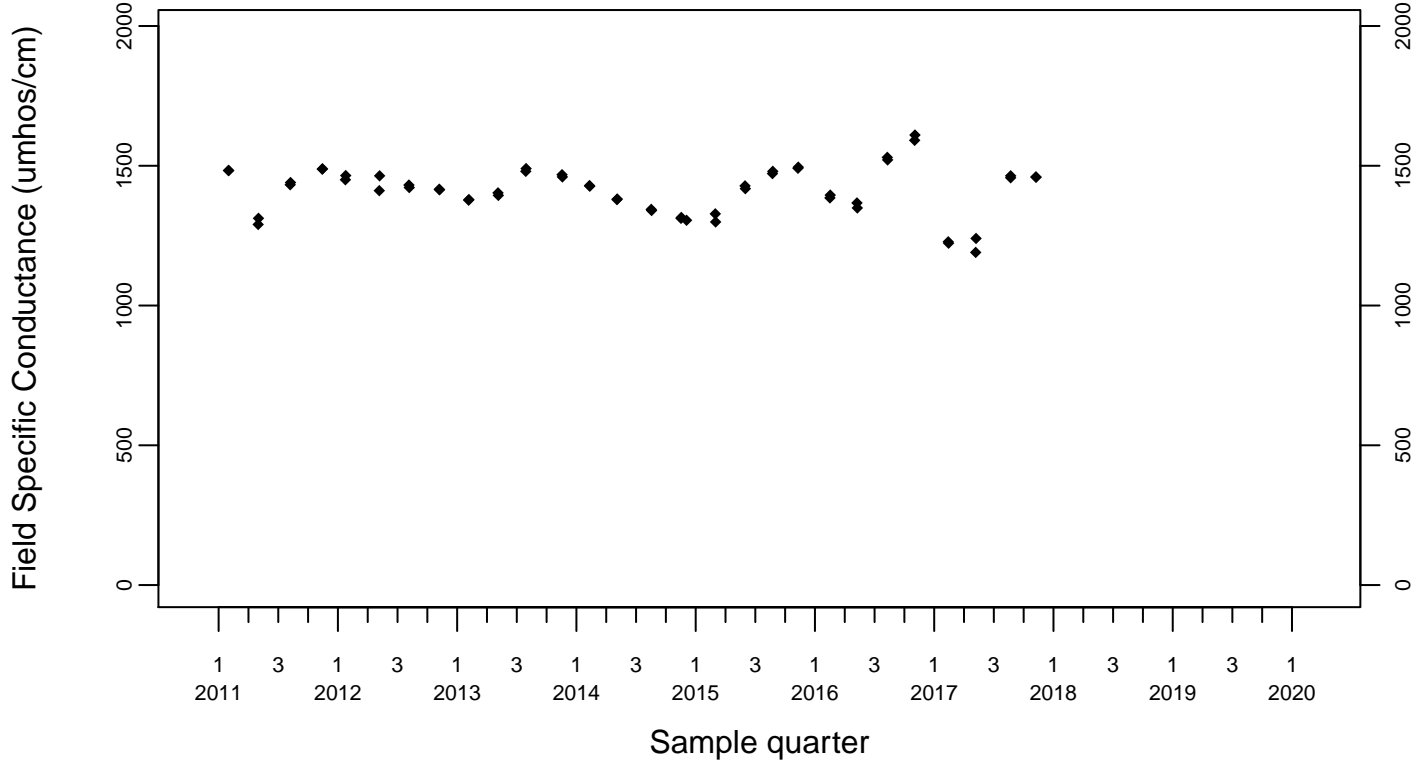
Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL

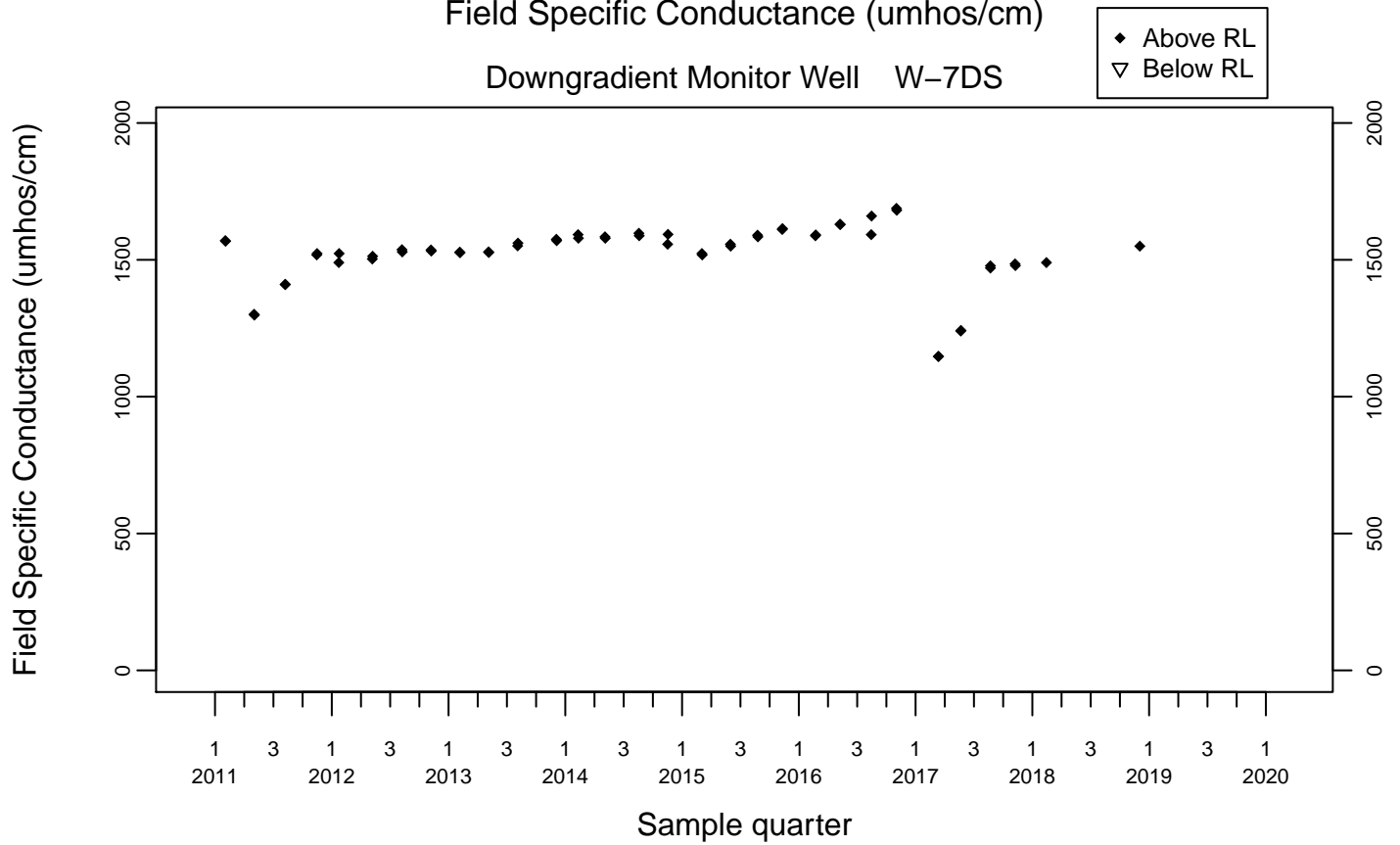


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Field Specific Conductance (umhos/cm)

Downgradient Monitor Well W-7DS

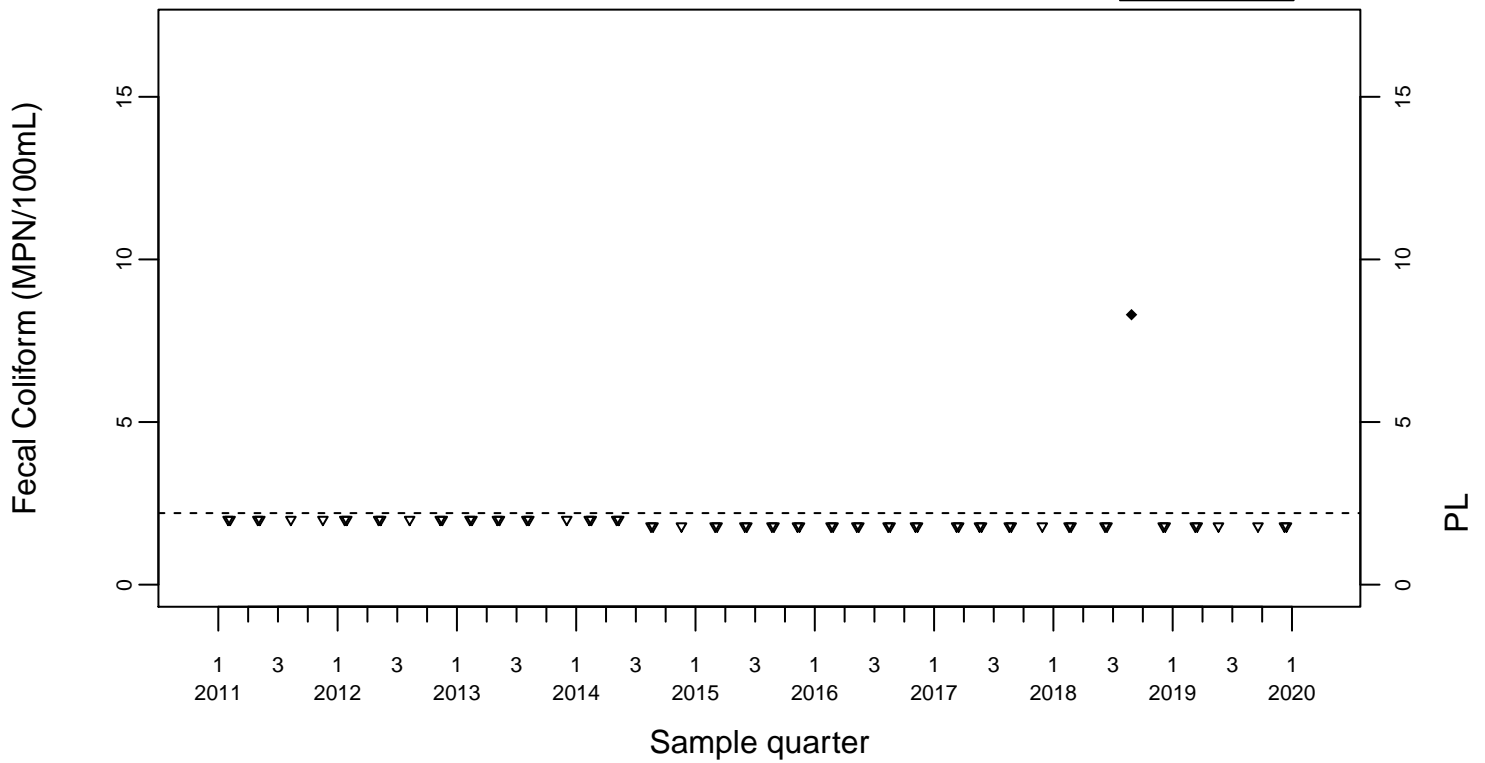


Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)

Upgradient Monitor Well W-7ES

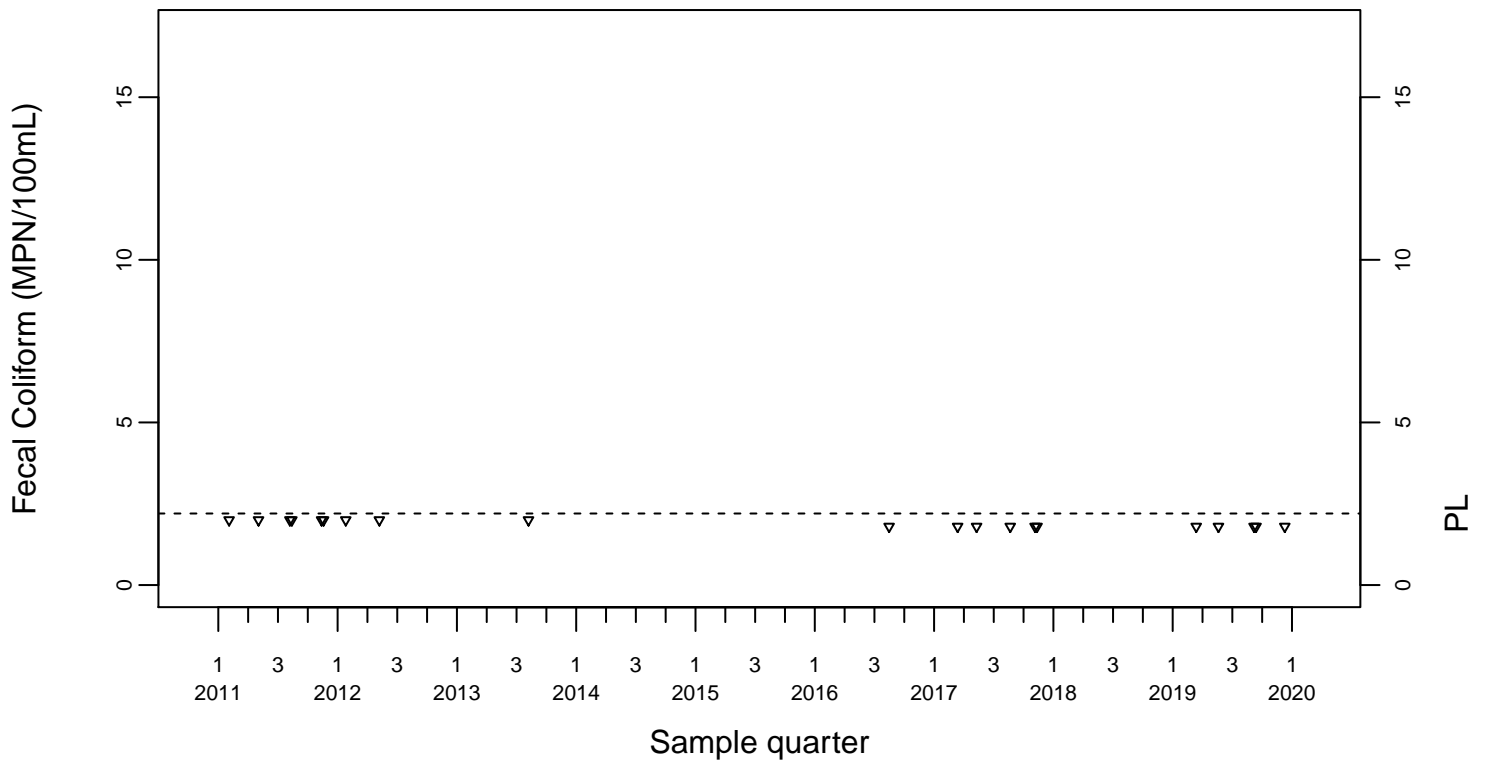
PL=2.2

◆ Above RL
▽ Below RL



PL=2.2

Upgradient Monitor Well W-7PS

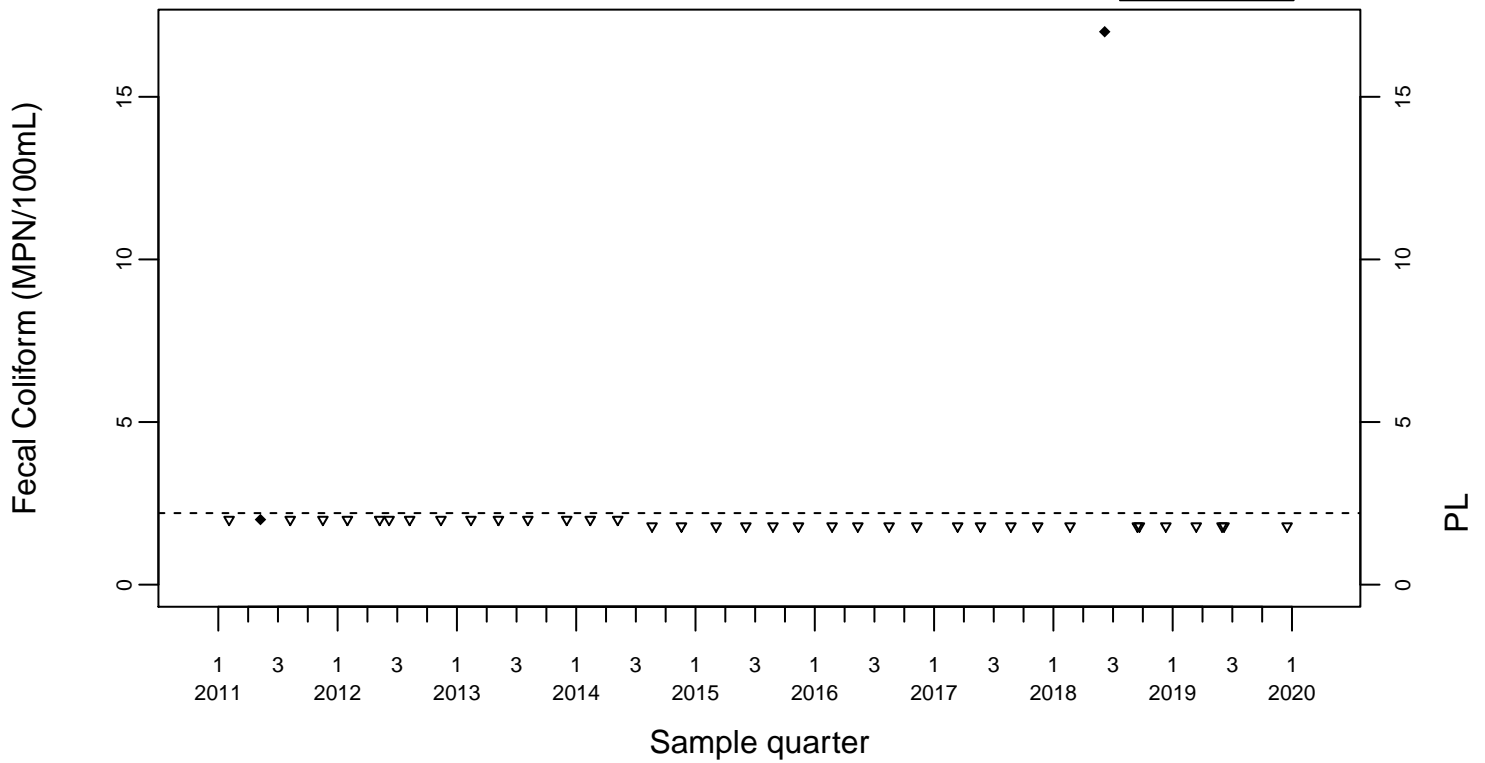


Sewage Ponds Ground Water Fecal Coliform (MPN/100mL)

Crossgradient Monitor Well W-35A-04

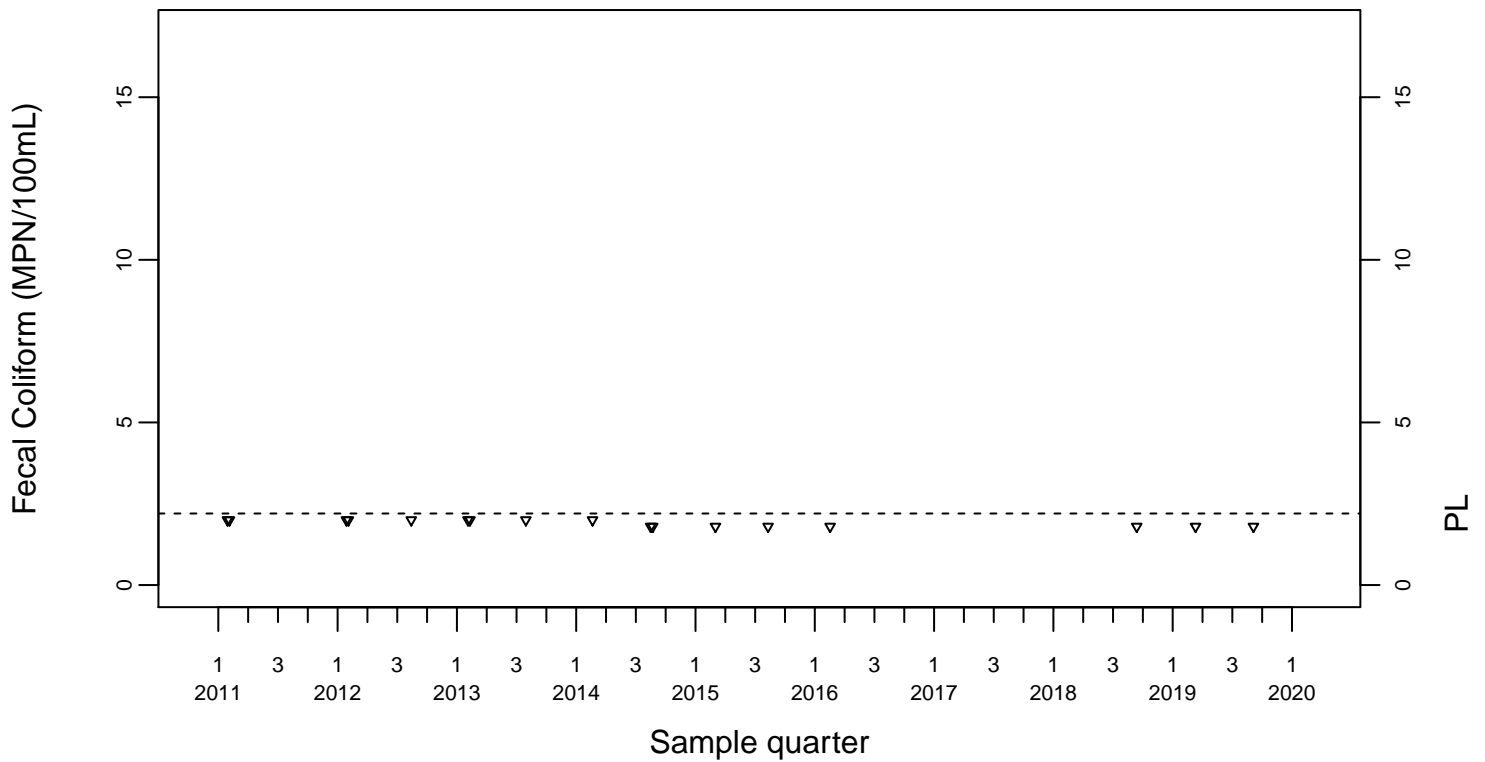
PL=2.2

◆ Above RL
▽ Below RL



PL=2.2

Downgradient Monitor Well W-25N-23

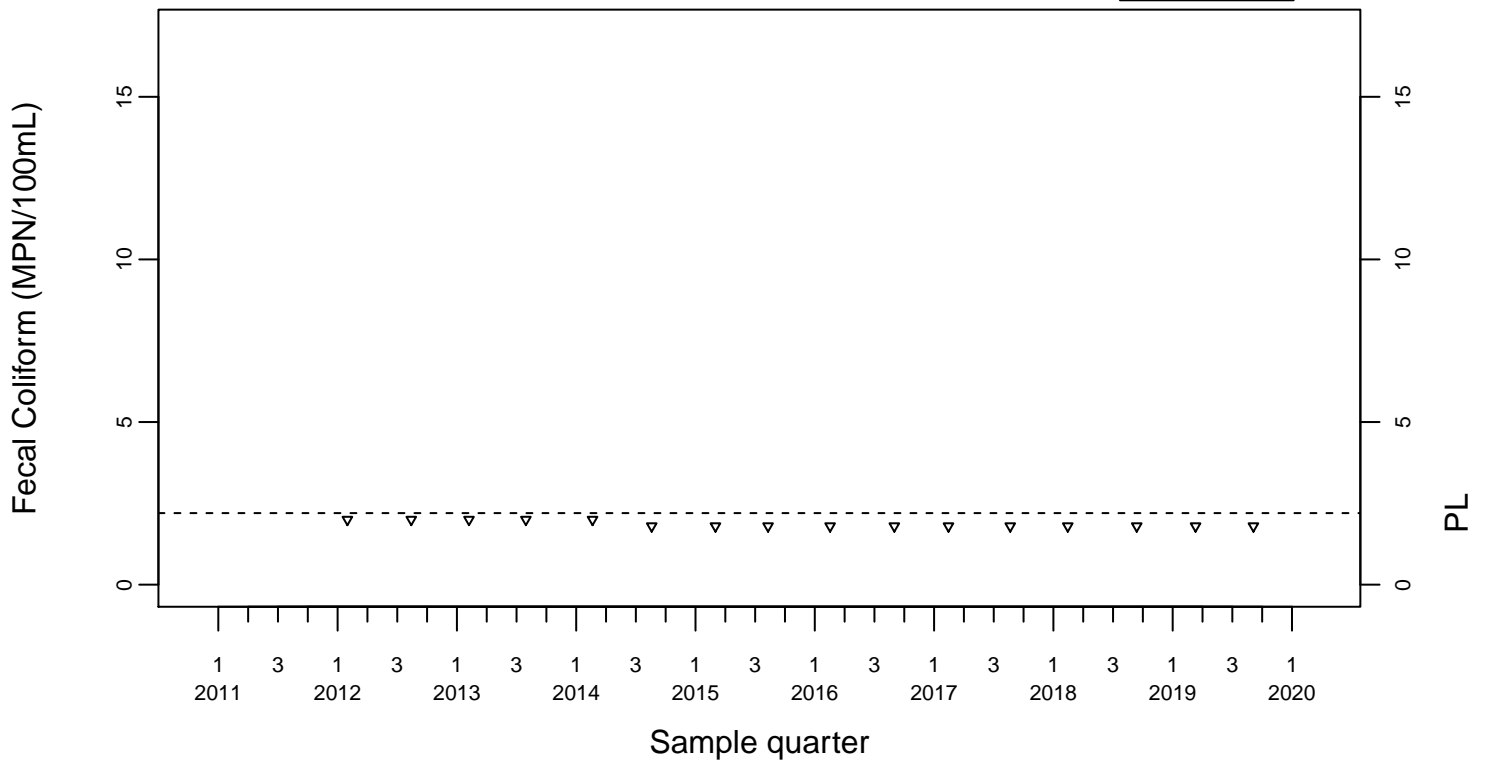


Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)

Downgradient Monitor Well W-25N-22

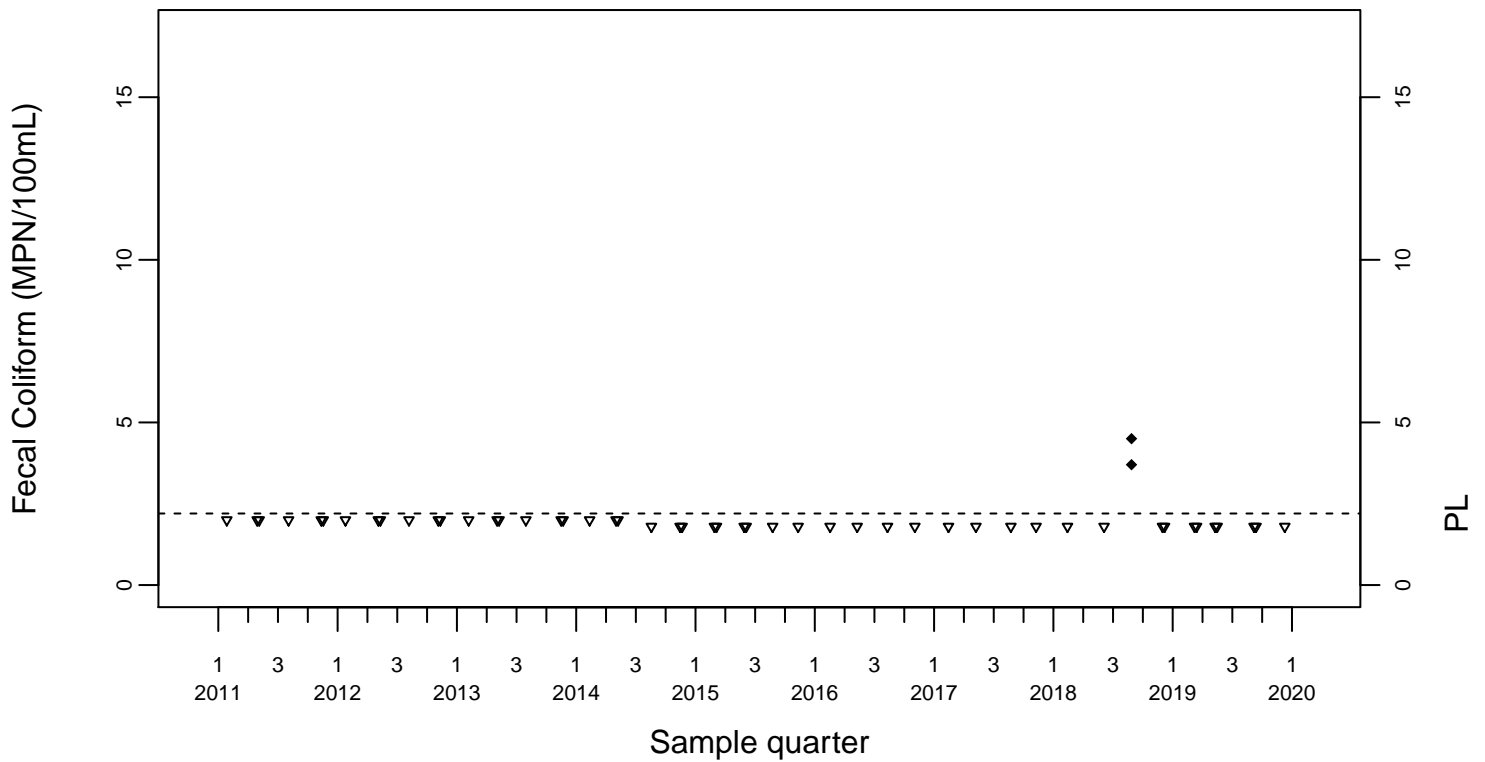
PL=2.2

◆ Above RL
▽ Below RL



Downgradient Monitor Well W-26R-01

PL=2.2

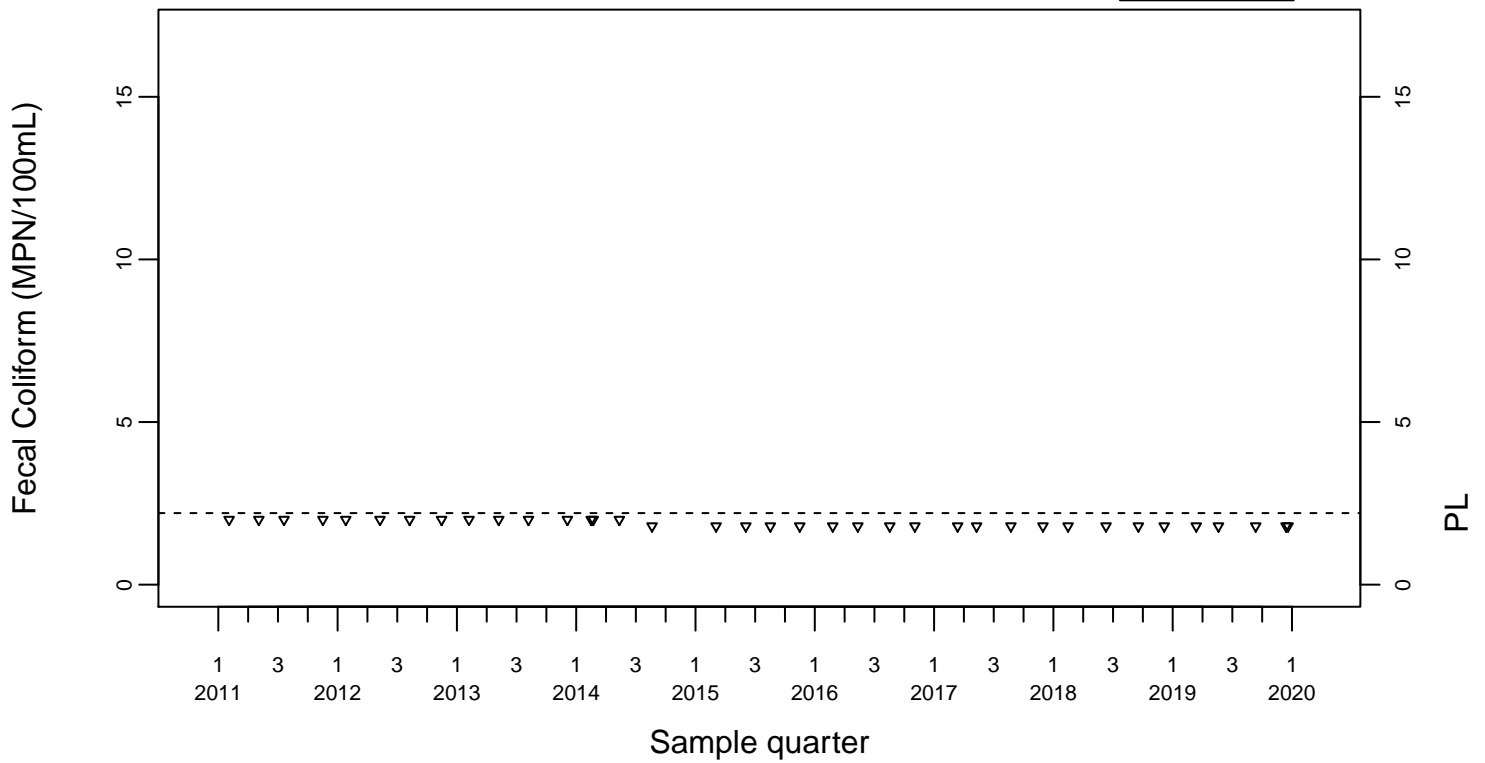


Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)

Downgradient Monitor Well W-26R-05

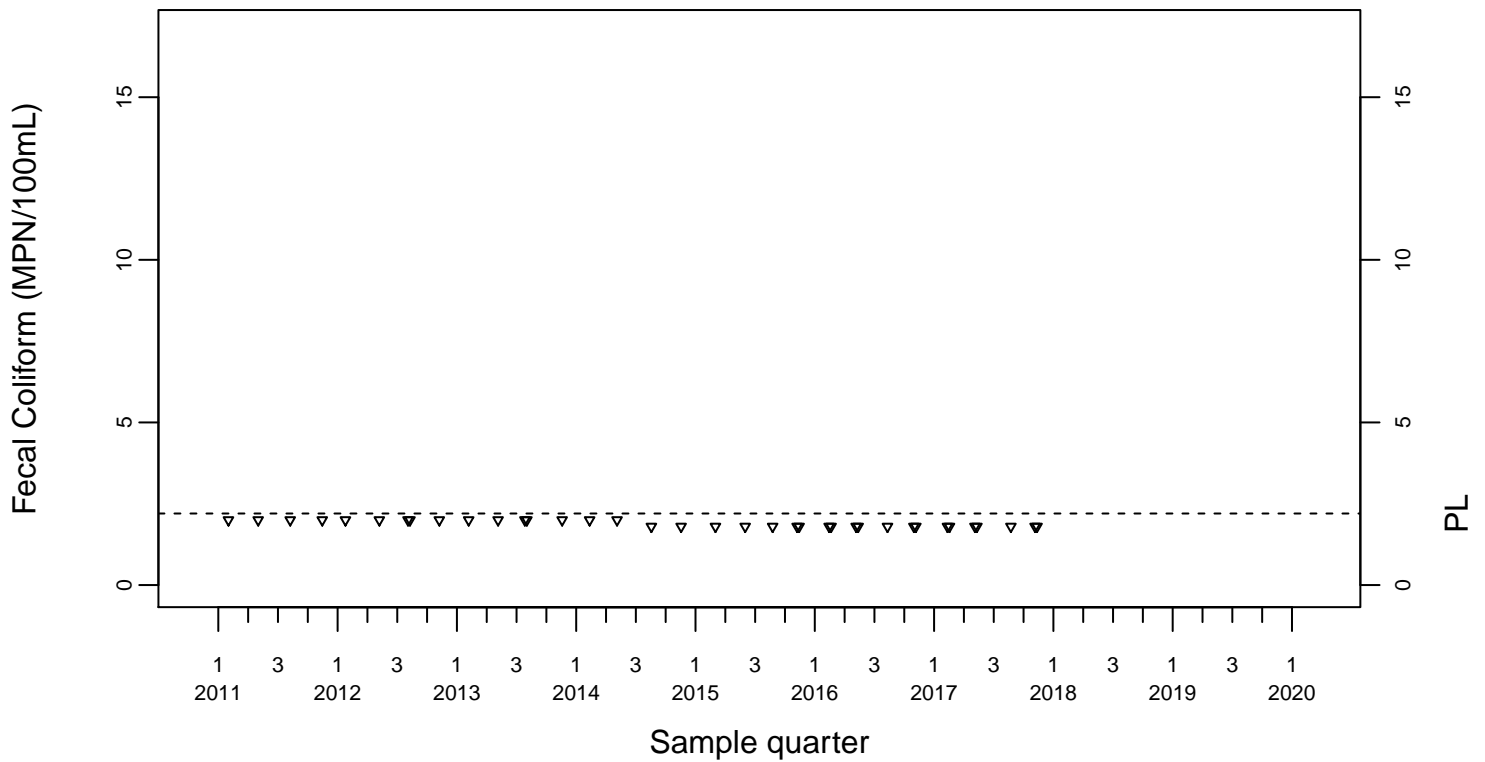
PL=2.2

◆ Above RL
▽ Below RL



Downgradient Monitor Well W-26R-11

PL=2.2

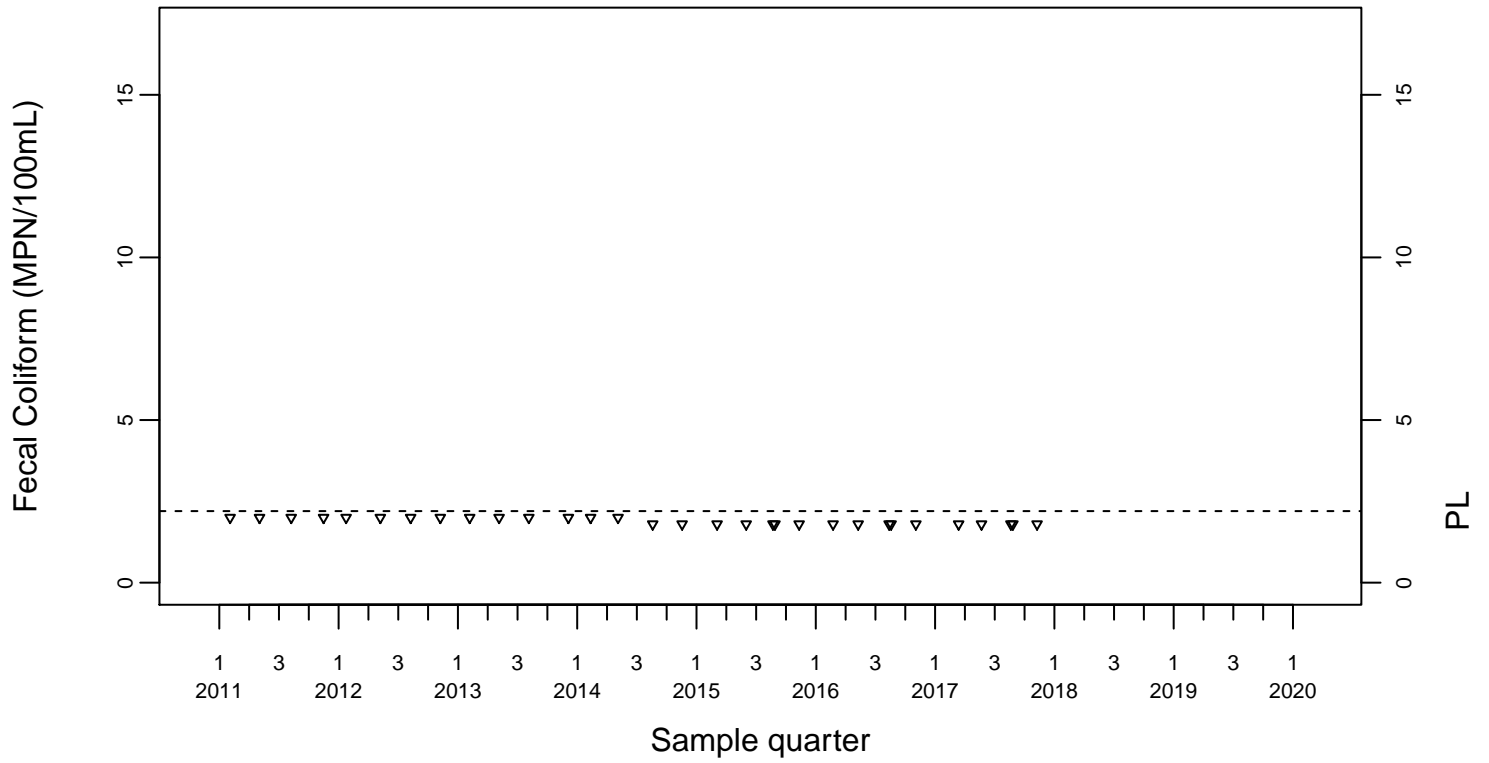


Sewage Ponds Ground Water
Fecal Coliform (MPN/100mL)

Downgradient Monitor Well W-7DS

PL=2.2

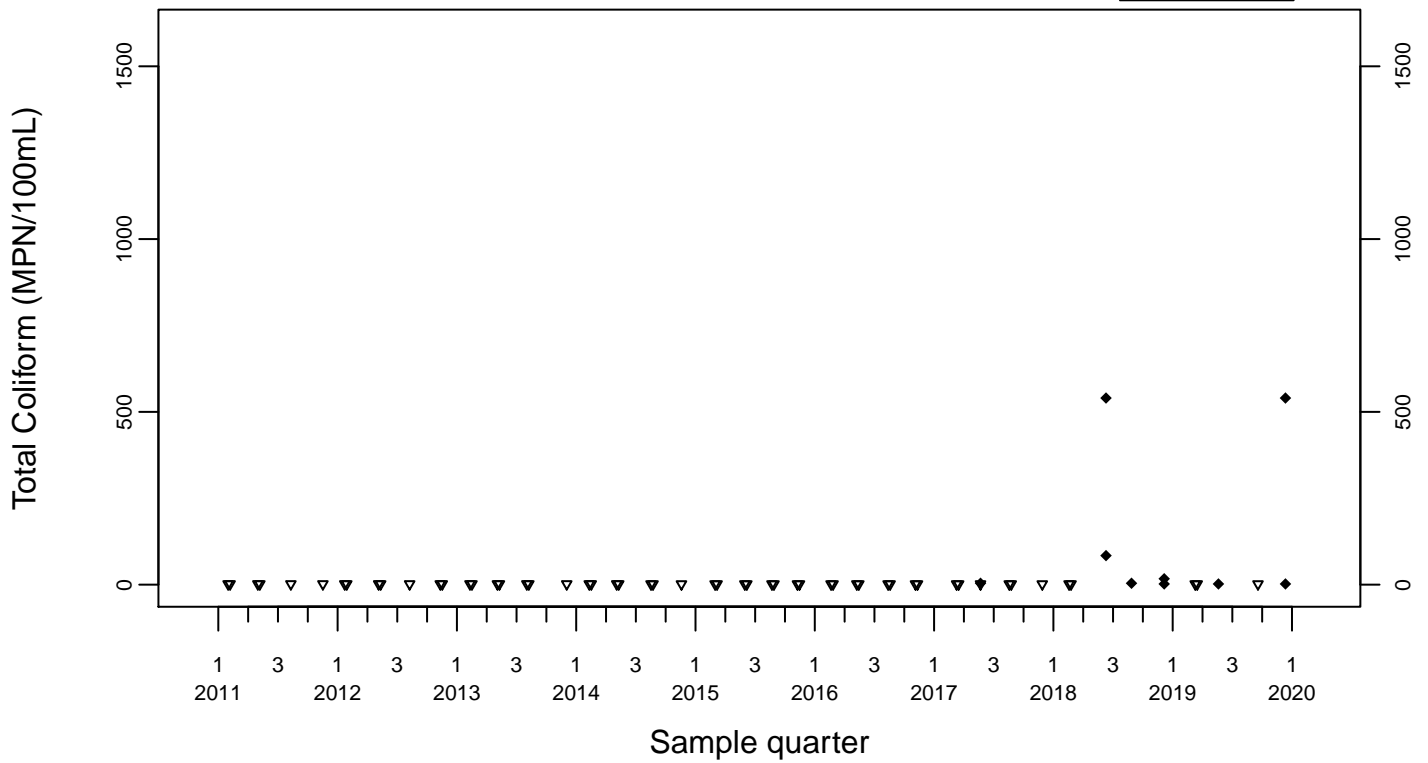
◆ Above RL
▽ Below RL



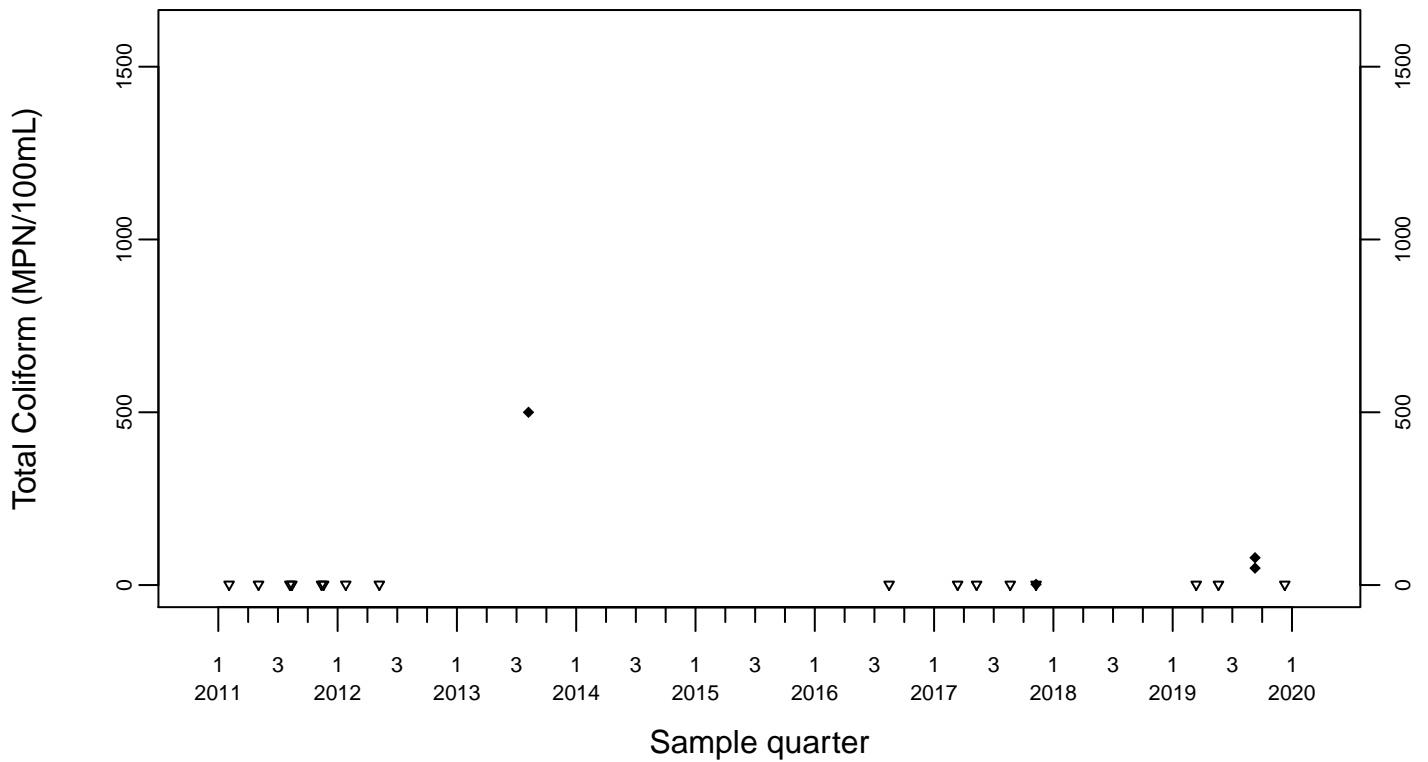
Sewage Ponds Ground Water
Total Coliform (MPN/100mL)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL

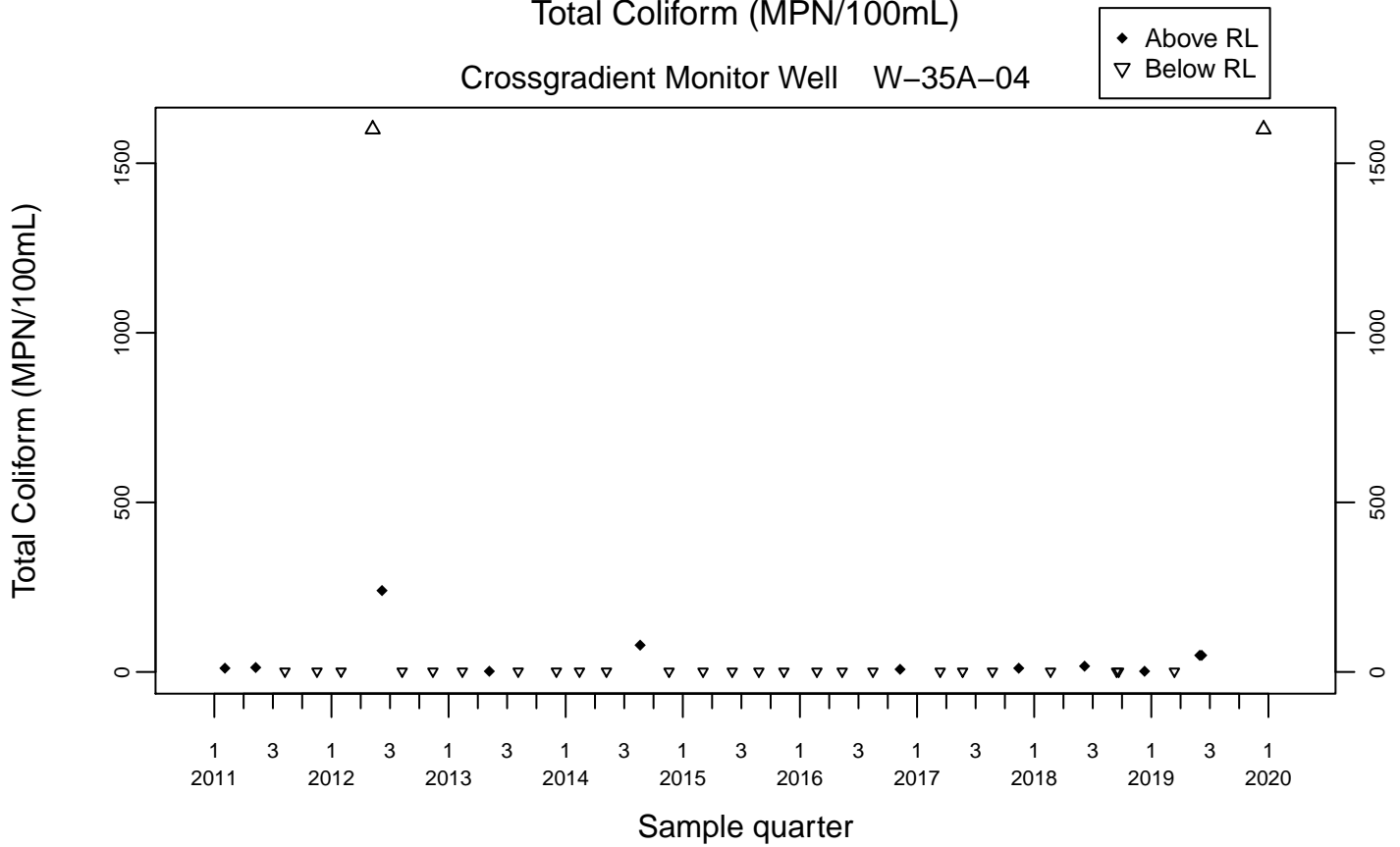


Upgradient Monitor Well W-7PS

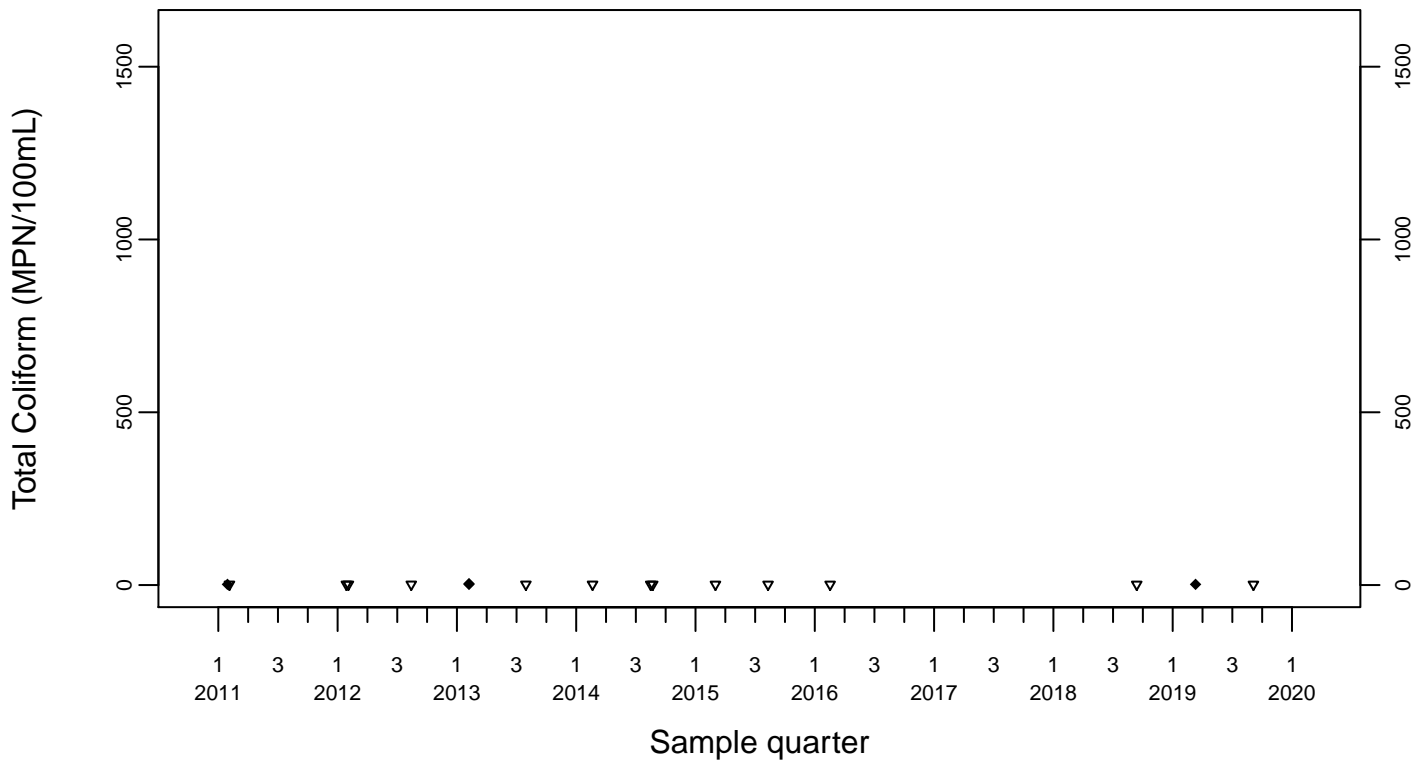


Sewage Ponds Ground Water
Total Coliform (MPN/100mL)

Crossgradient Monitor Well W-35A-04



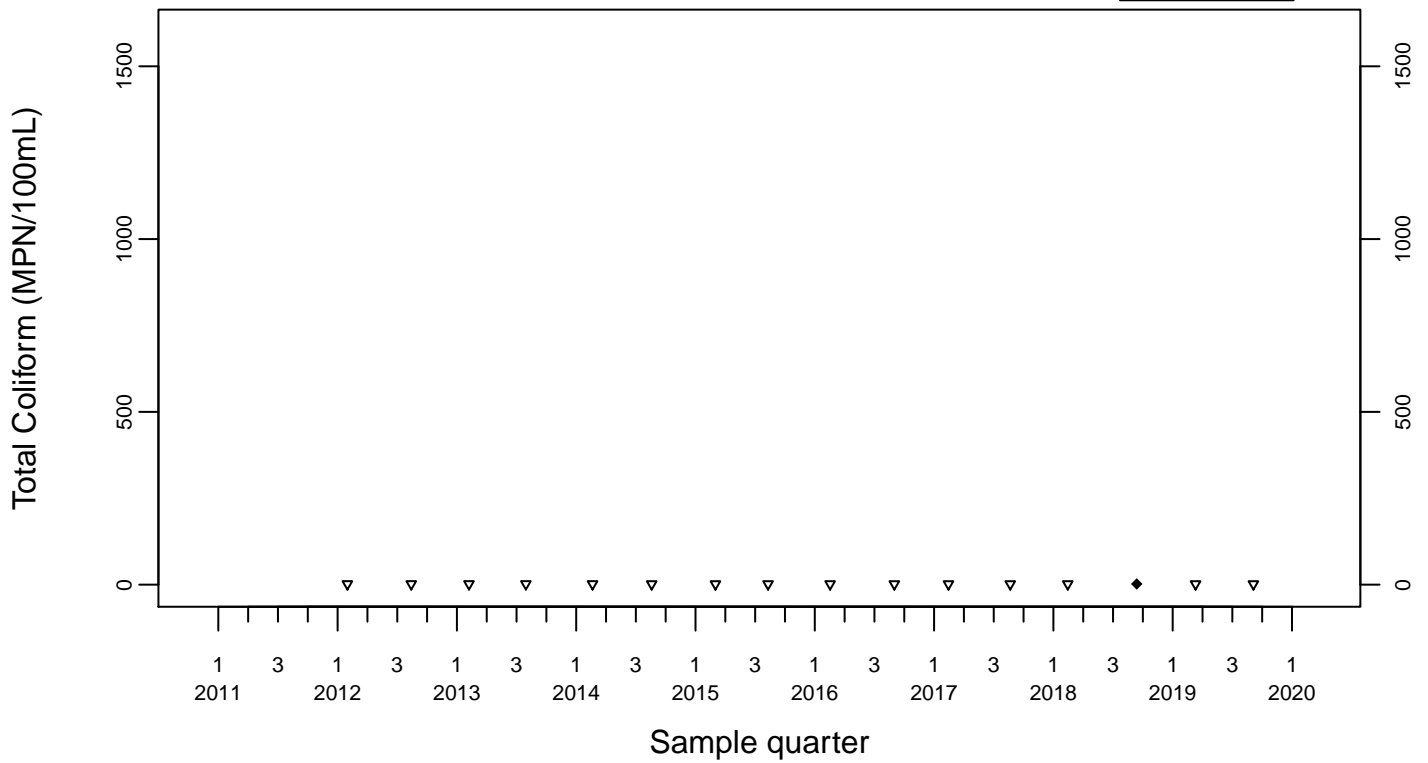
Downgradient Monitor Well W-25N-23



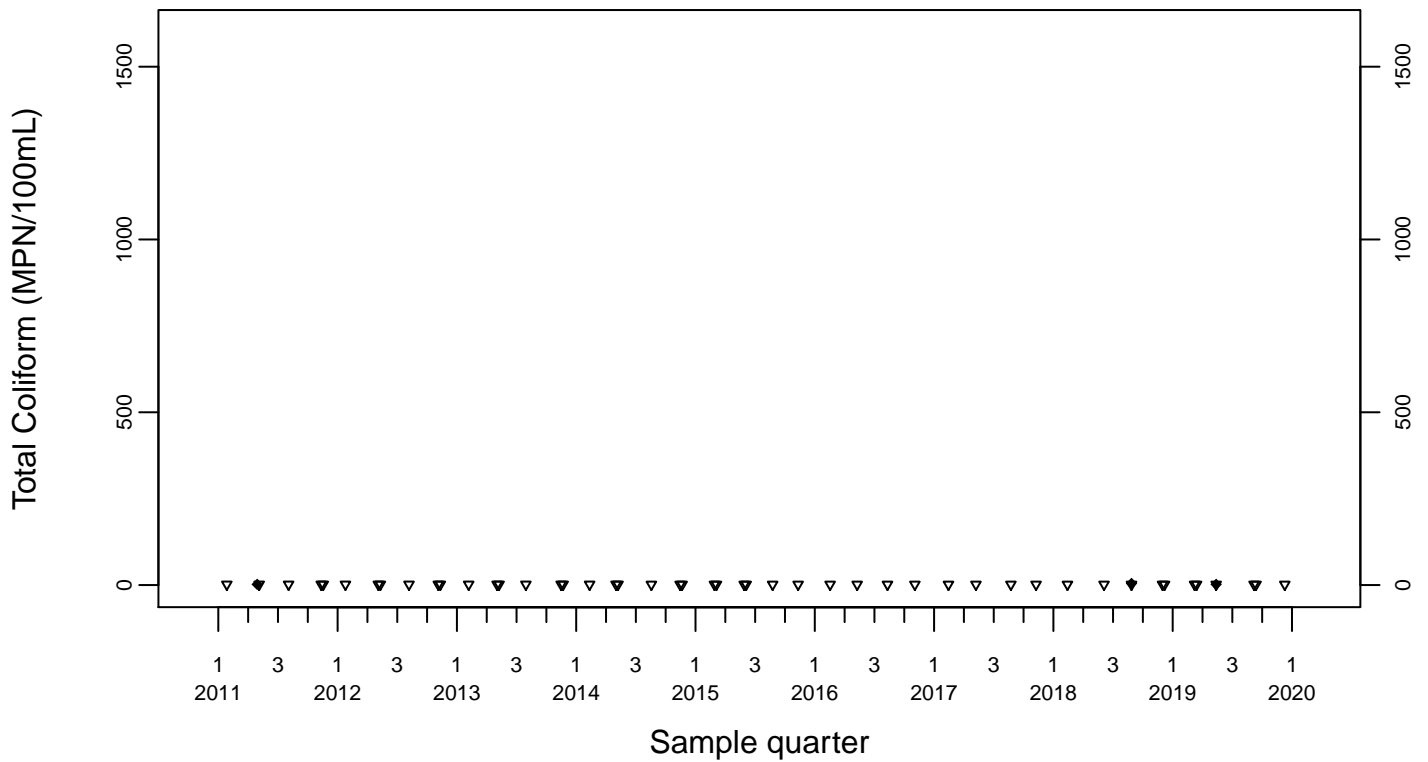
Sewage Ponds Ground Water
Total Coliform (MPN/100mL)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



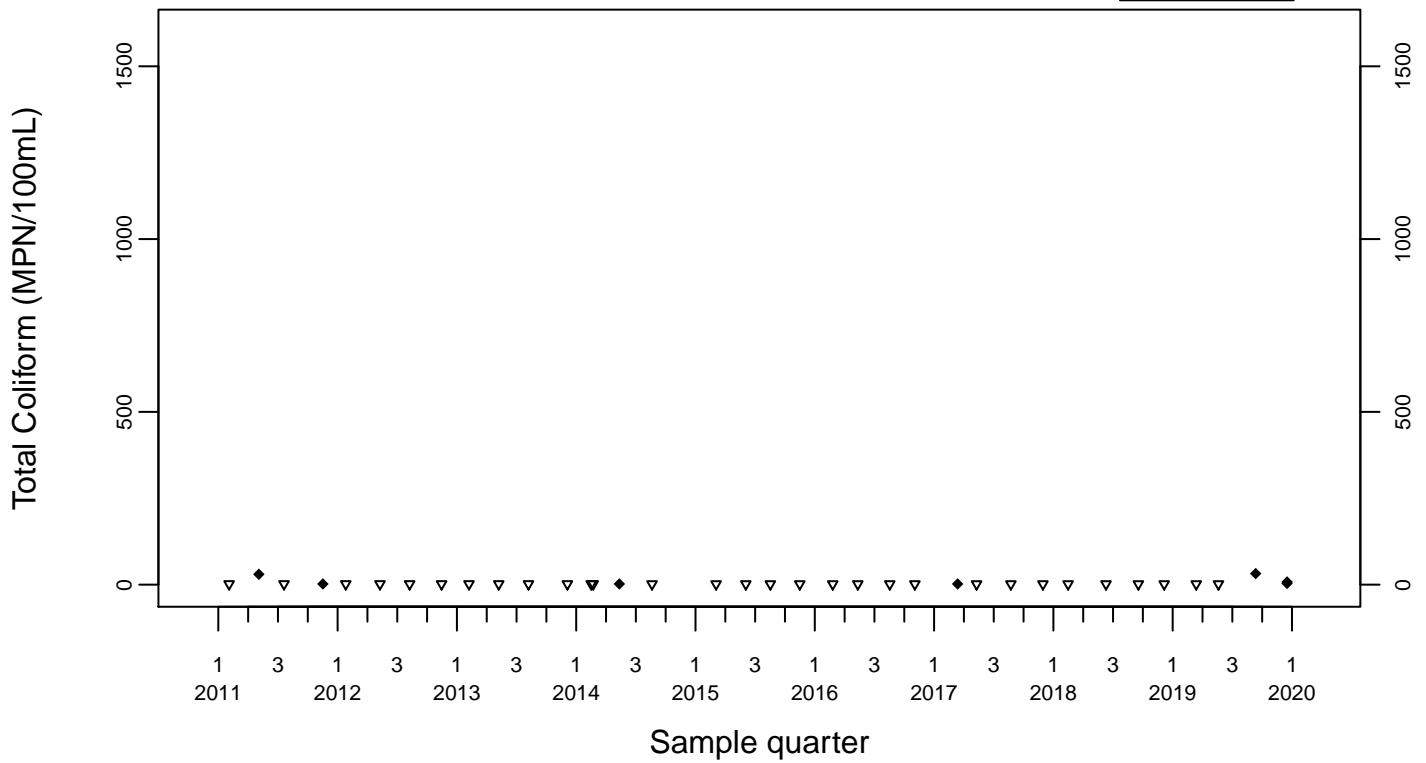
Downgradient Monitor Well W-26R-01



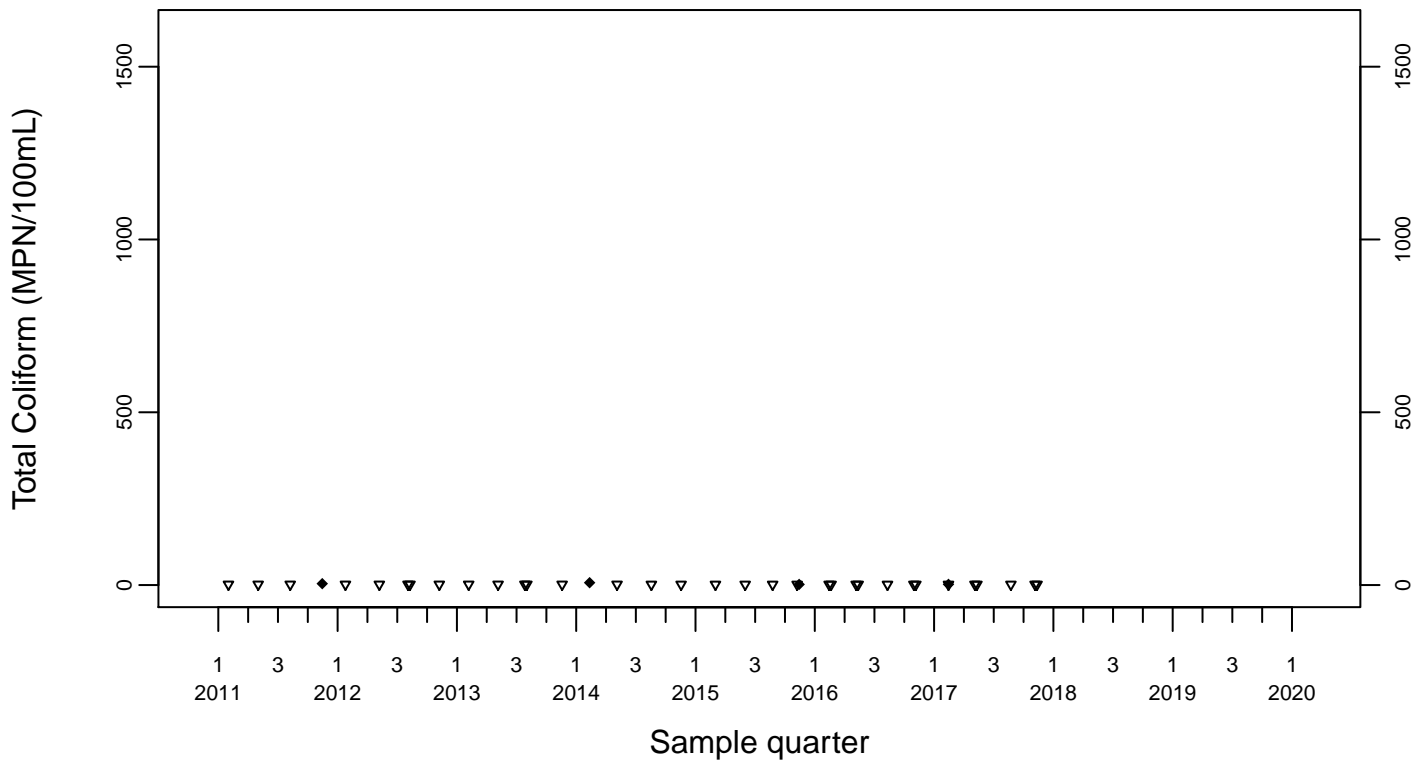
Sewage Ponds Ground Water
Total Coliform (MPN/100mL)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL

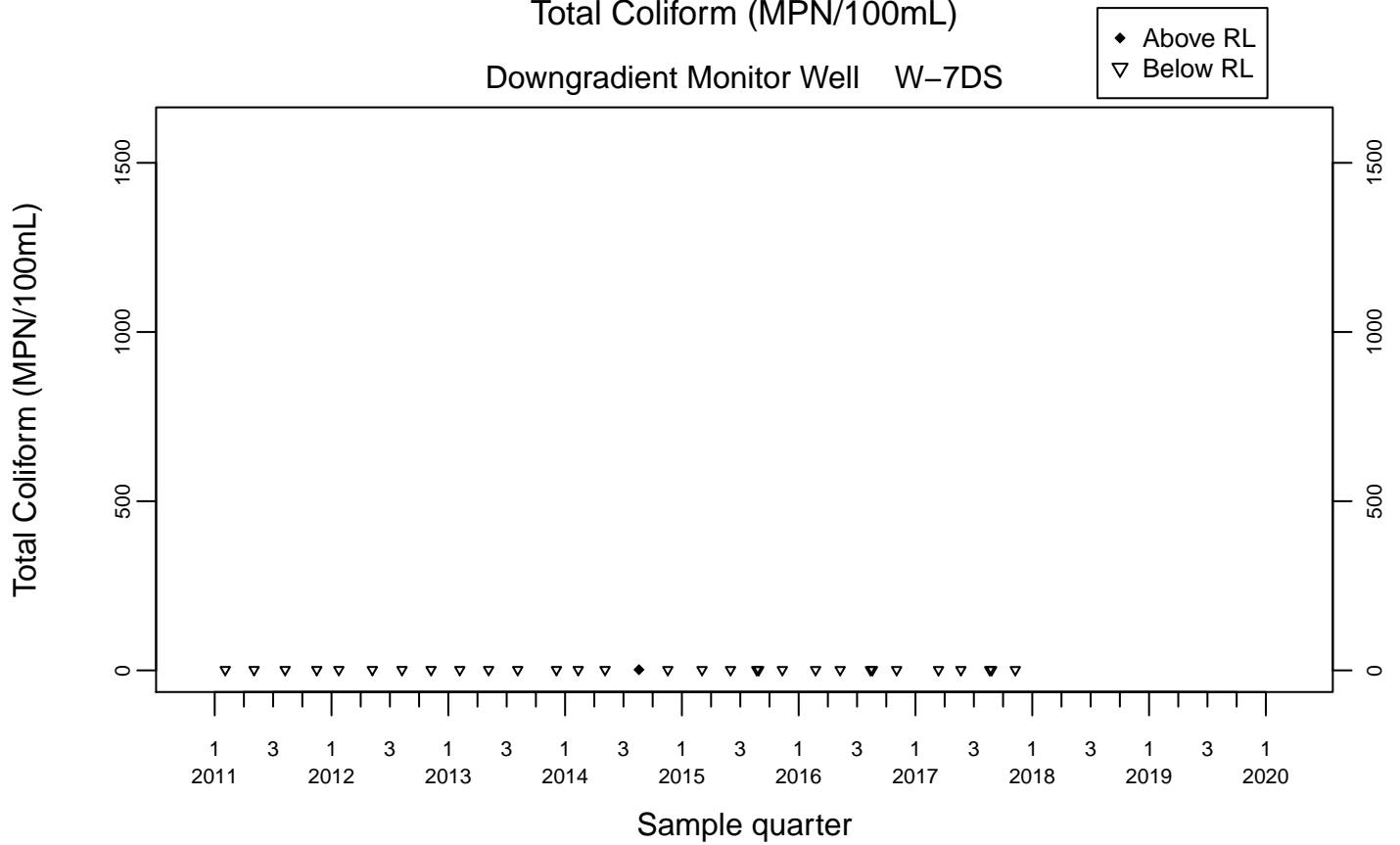


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Total Coliform (MPN/100mL)

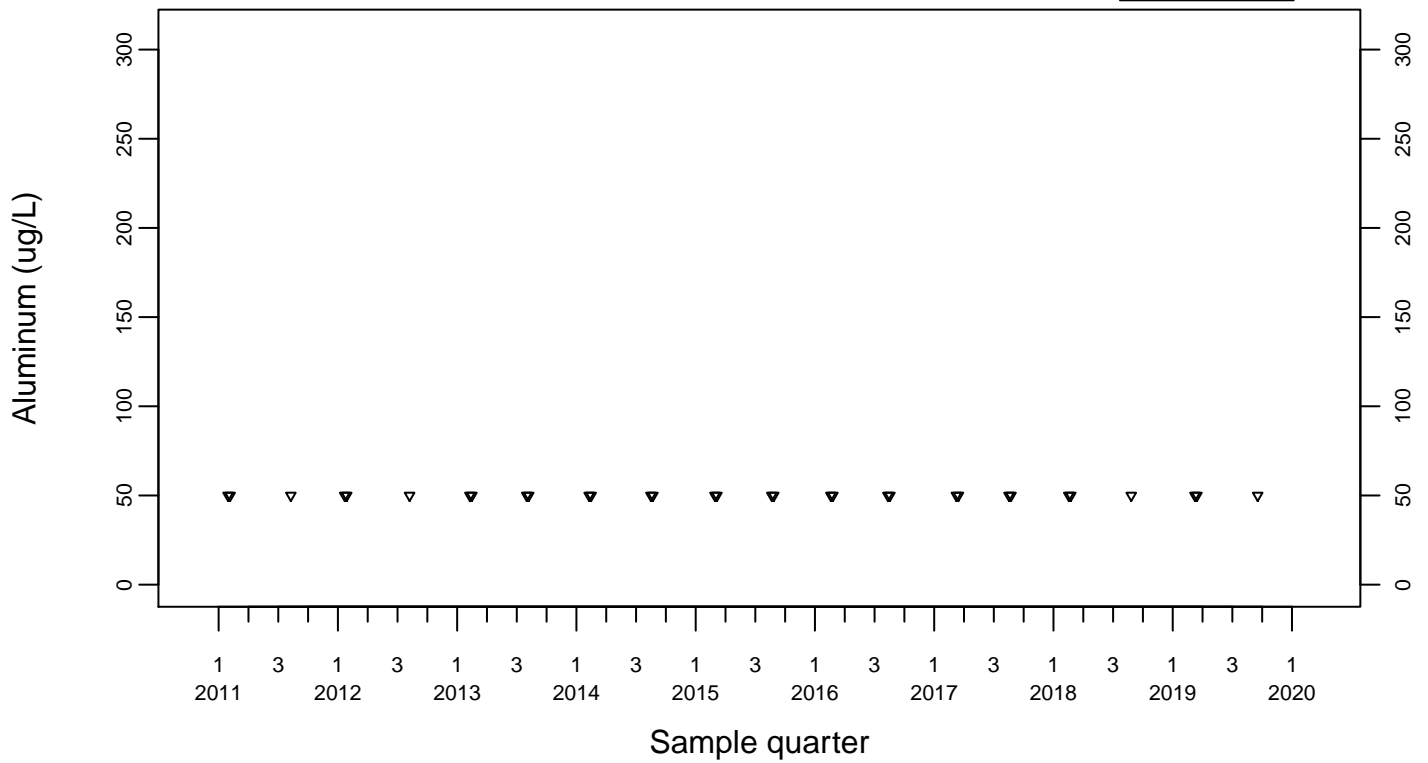
Downgradient Monitor Well W-7DS



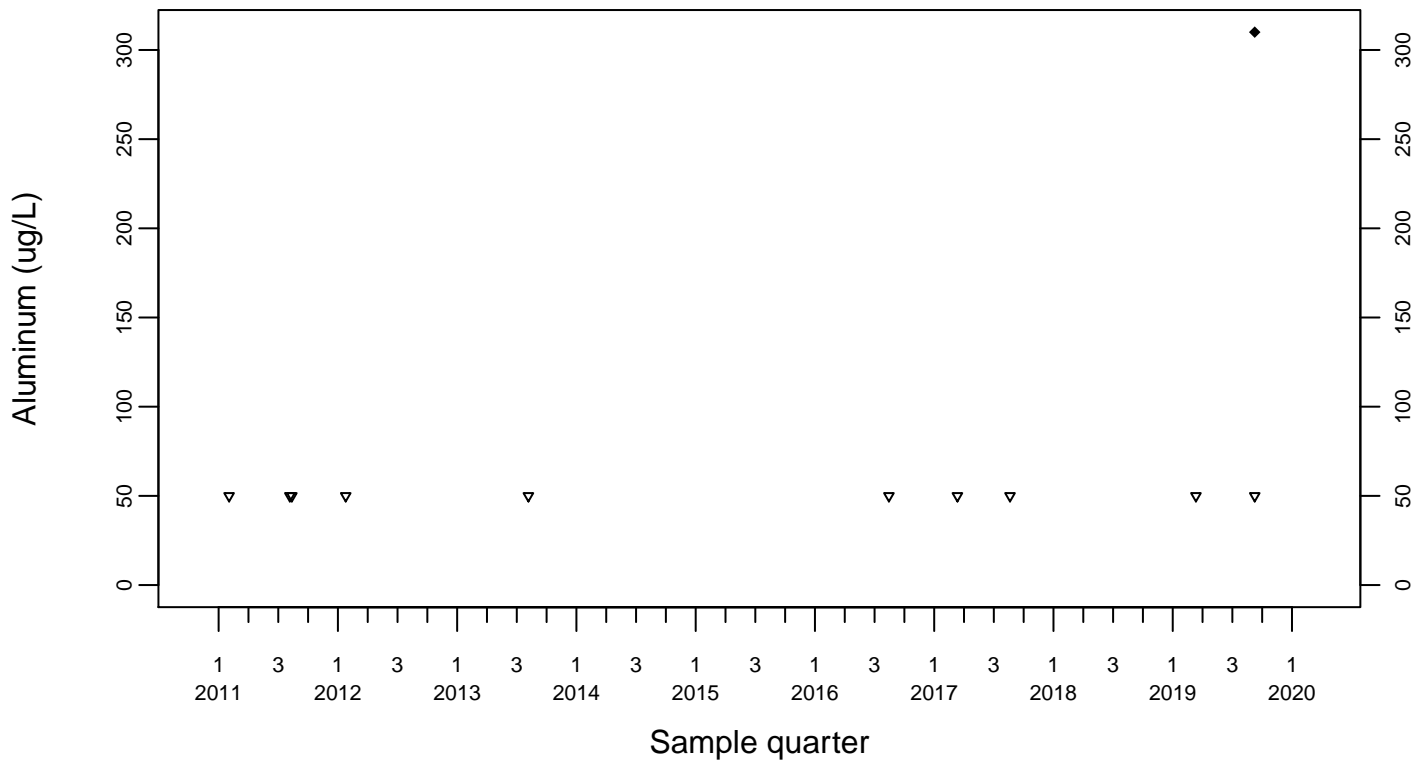
Sewage Ponds Ground Water
Aluminum (ug/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



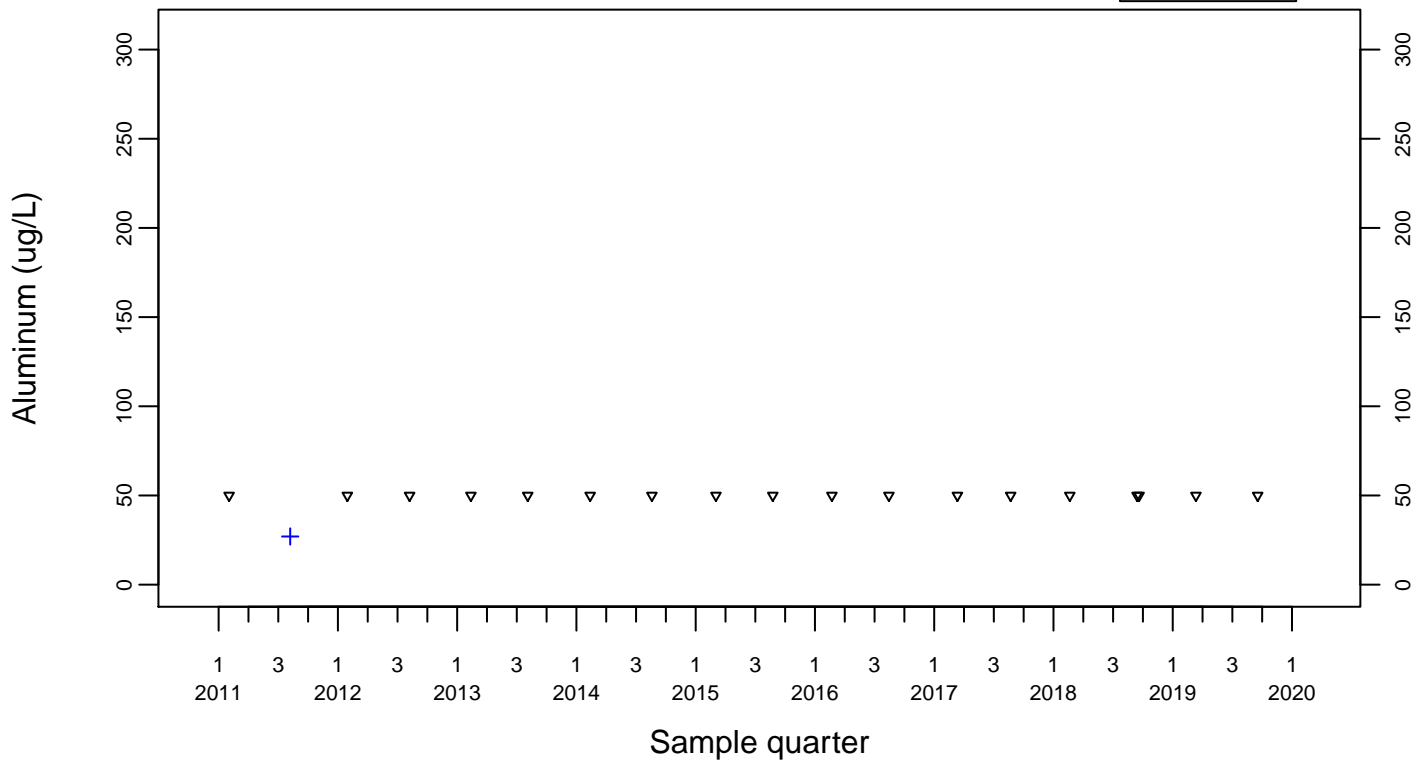
Upgradient Monitor Well W-7PS



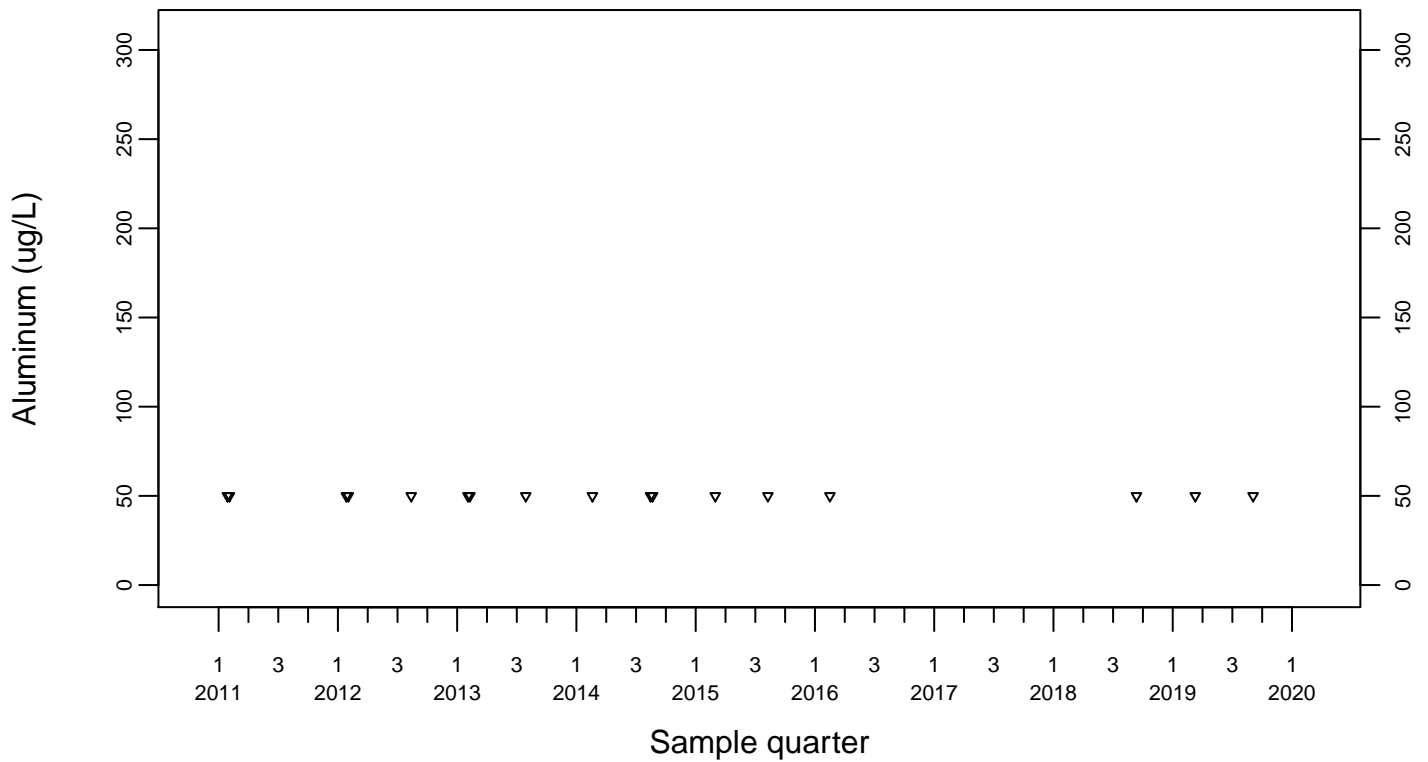
Sewage Ponds Ground Water
Aluminum (ug/L)

Crossgradient Monitor Well W-35A-04

- ◆ Above RL
- ▽ Below RL
- + Estimated



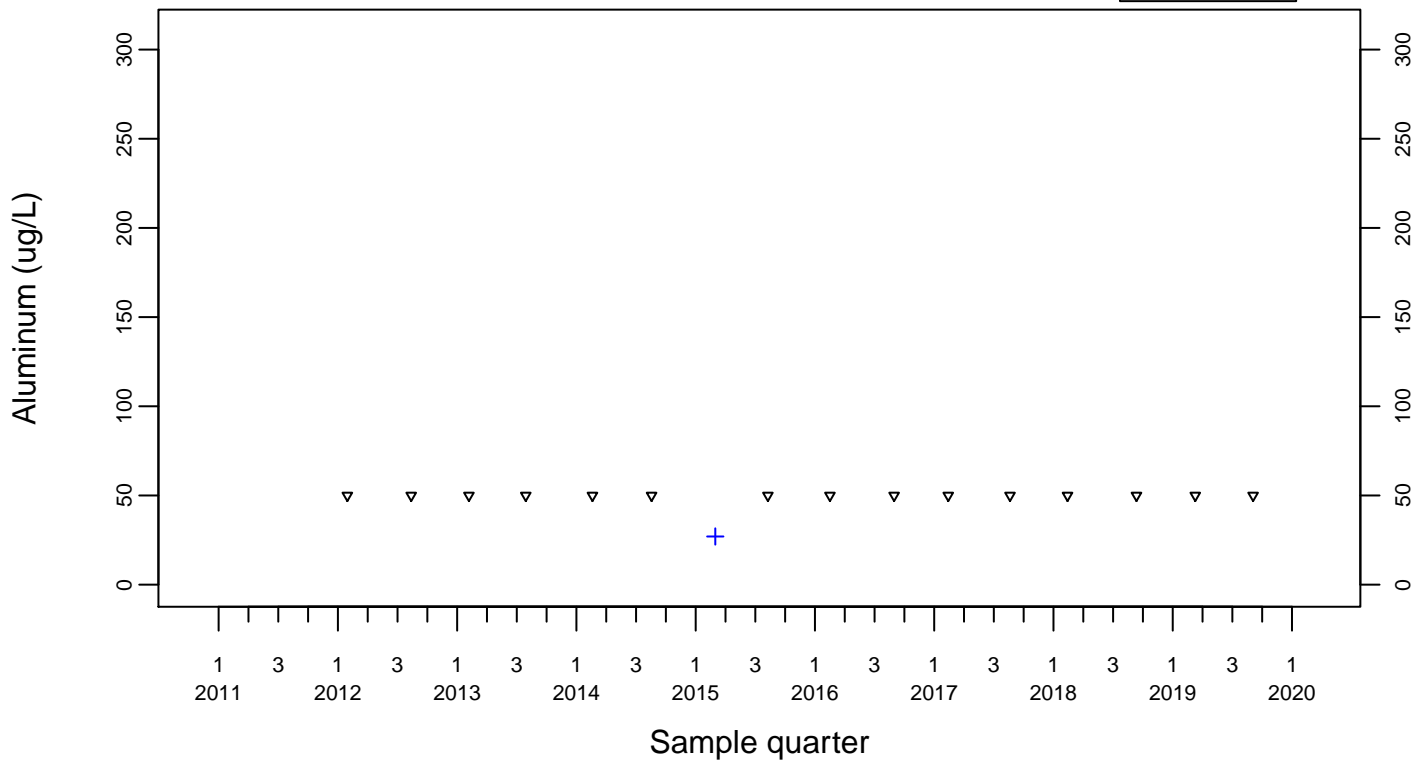
Downgradient Monitor Well W-25N-23



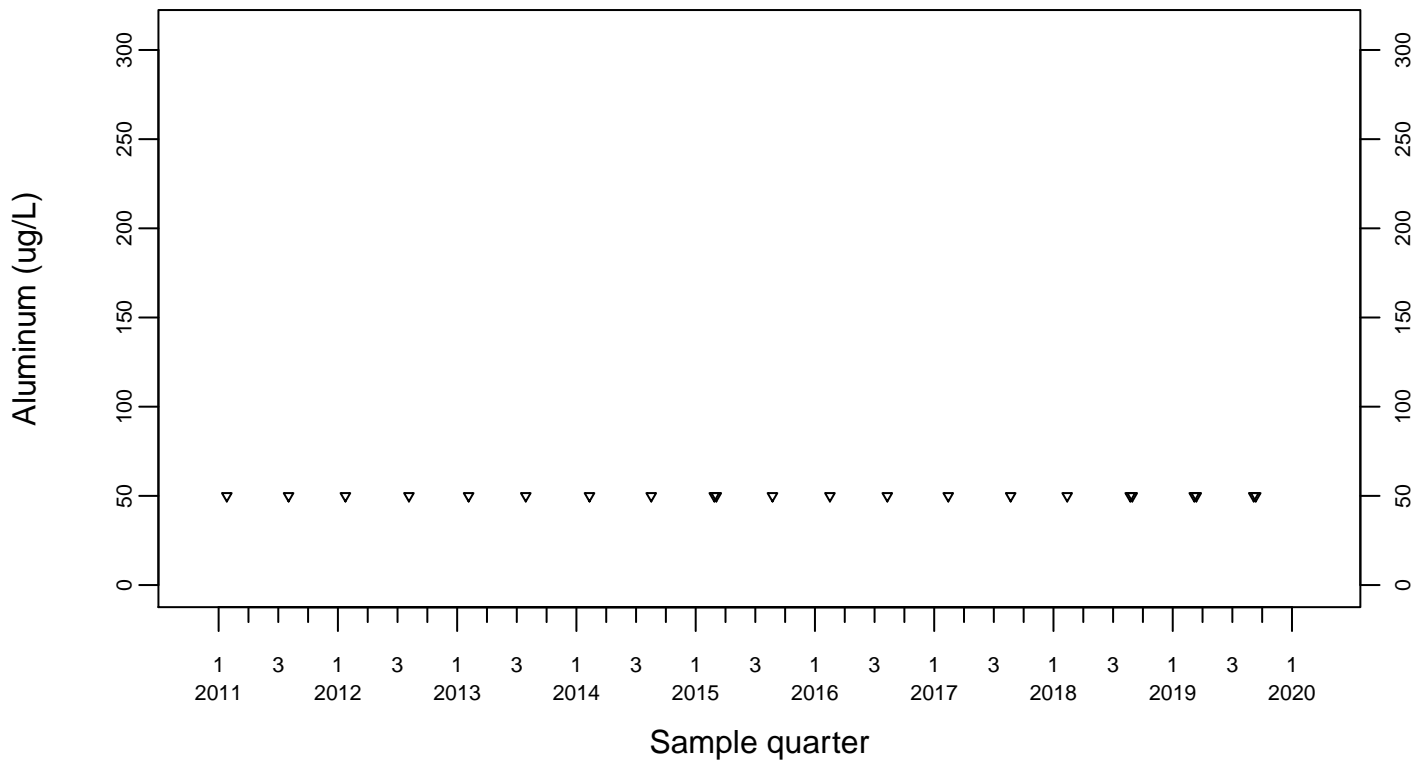
Sewage Ponds Ground Water
Aluminum (ug/L)

Downgradient Monitor Well W-25N-22

- ◆ Above RL
- ▽ Below RL
- + Estimated



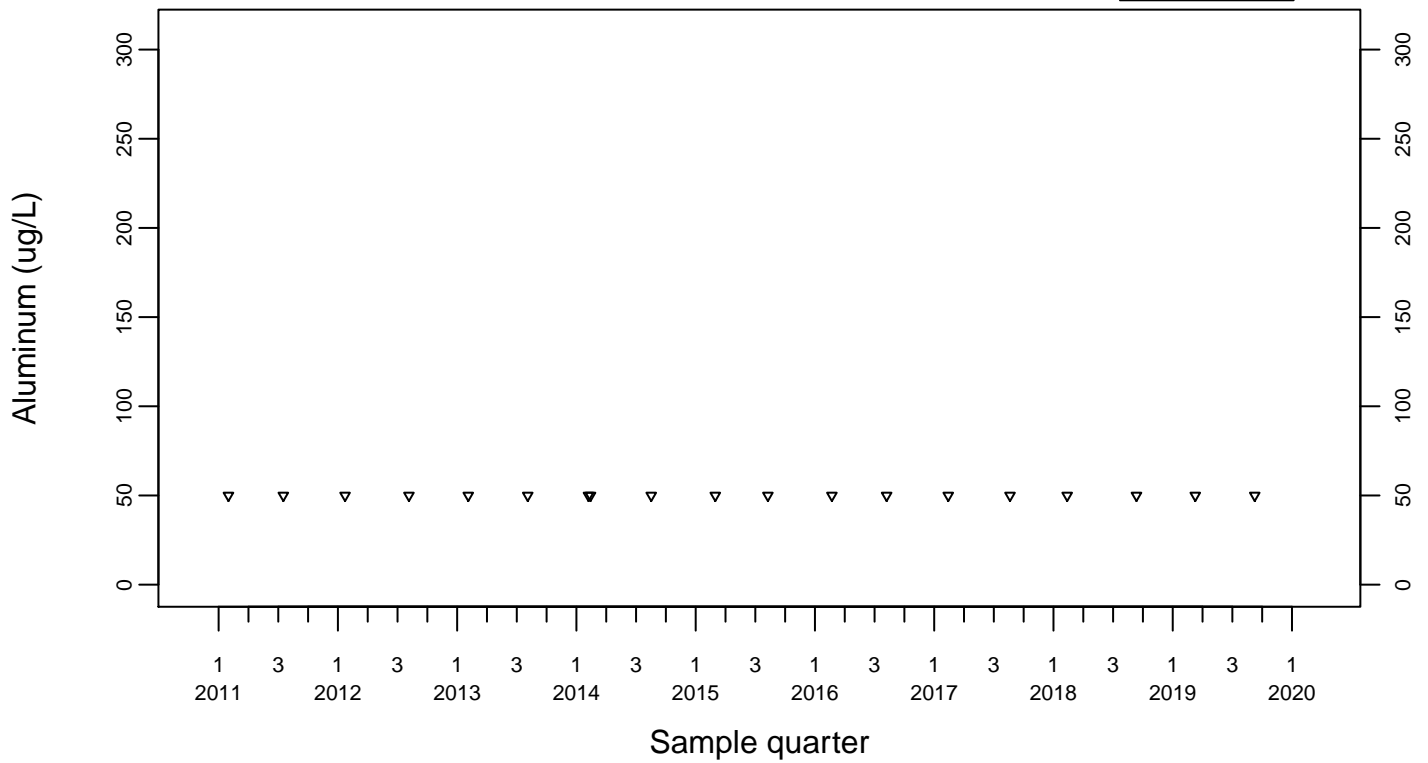
Downgradient Monitor Well W-26R-01



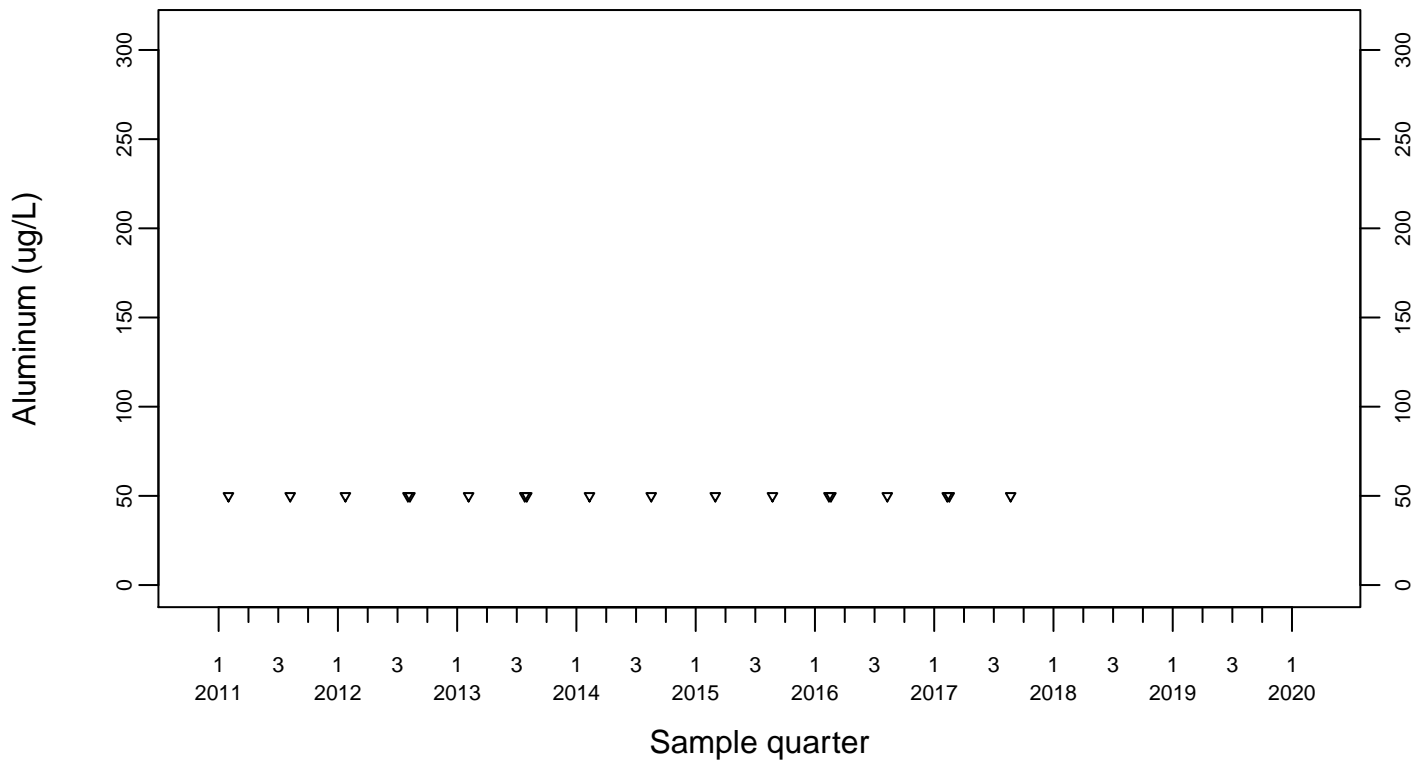
Sewage Ponds Ground Water
Aluminum (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL

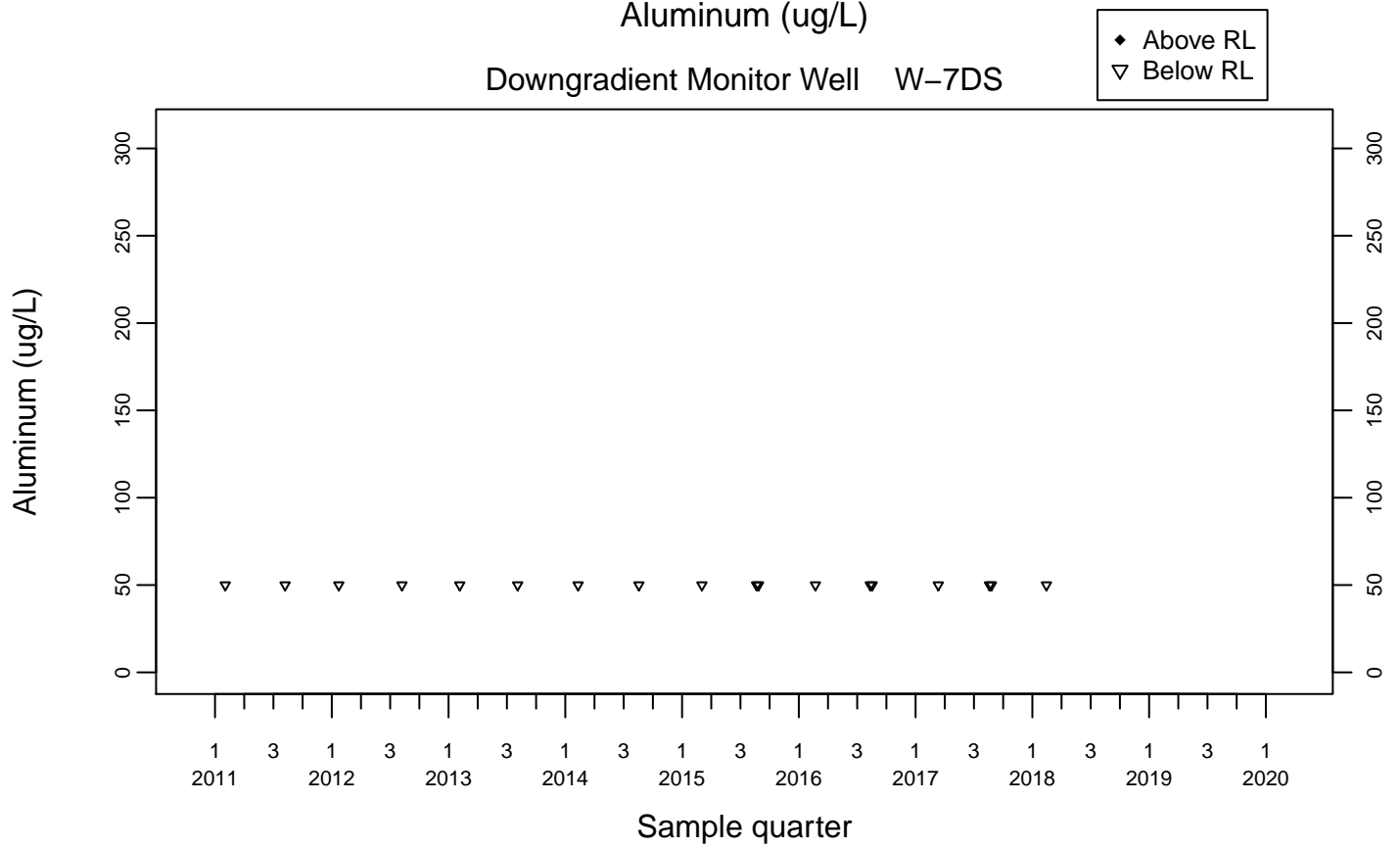


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Aluminum (ug/L)

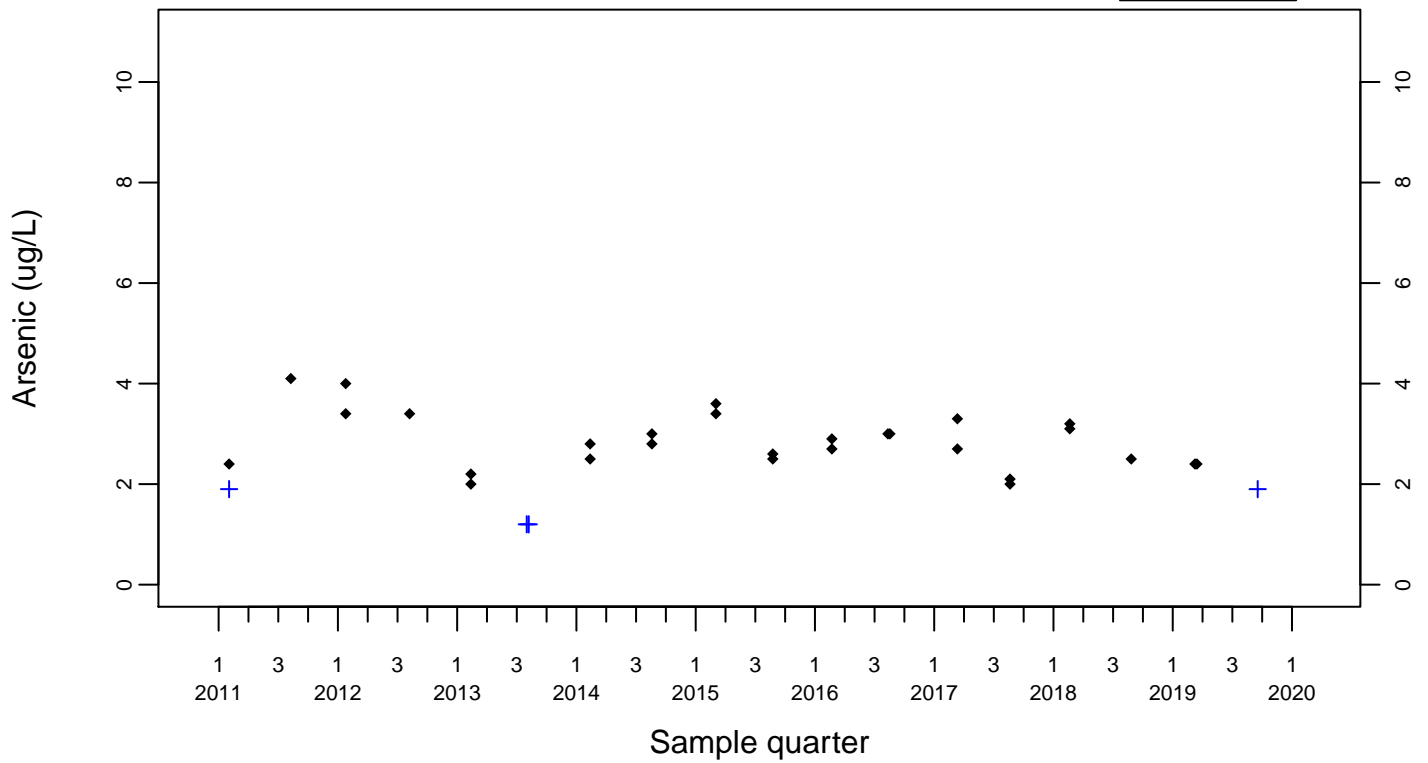
Downgradient Monitor Well W-7DS



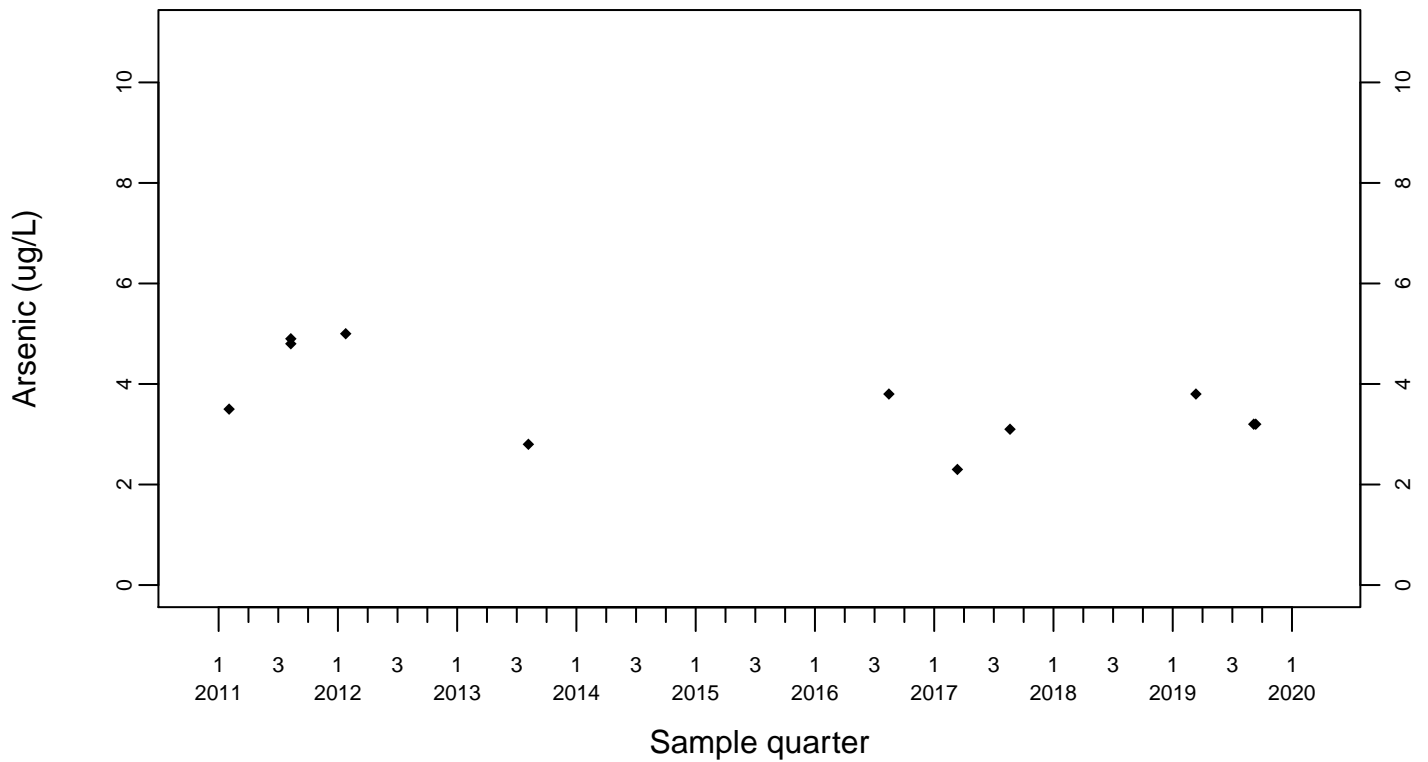
Sewage Ponds Ground Water
Arsenic (ug/L)

Upgradient Monitor Well W-7ES

◆ Above RL
+ Estimated



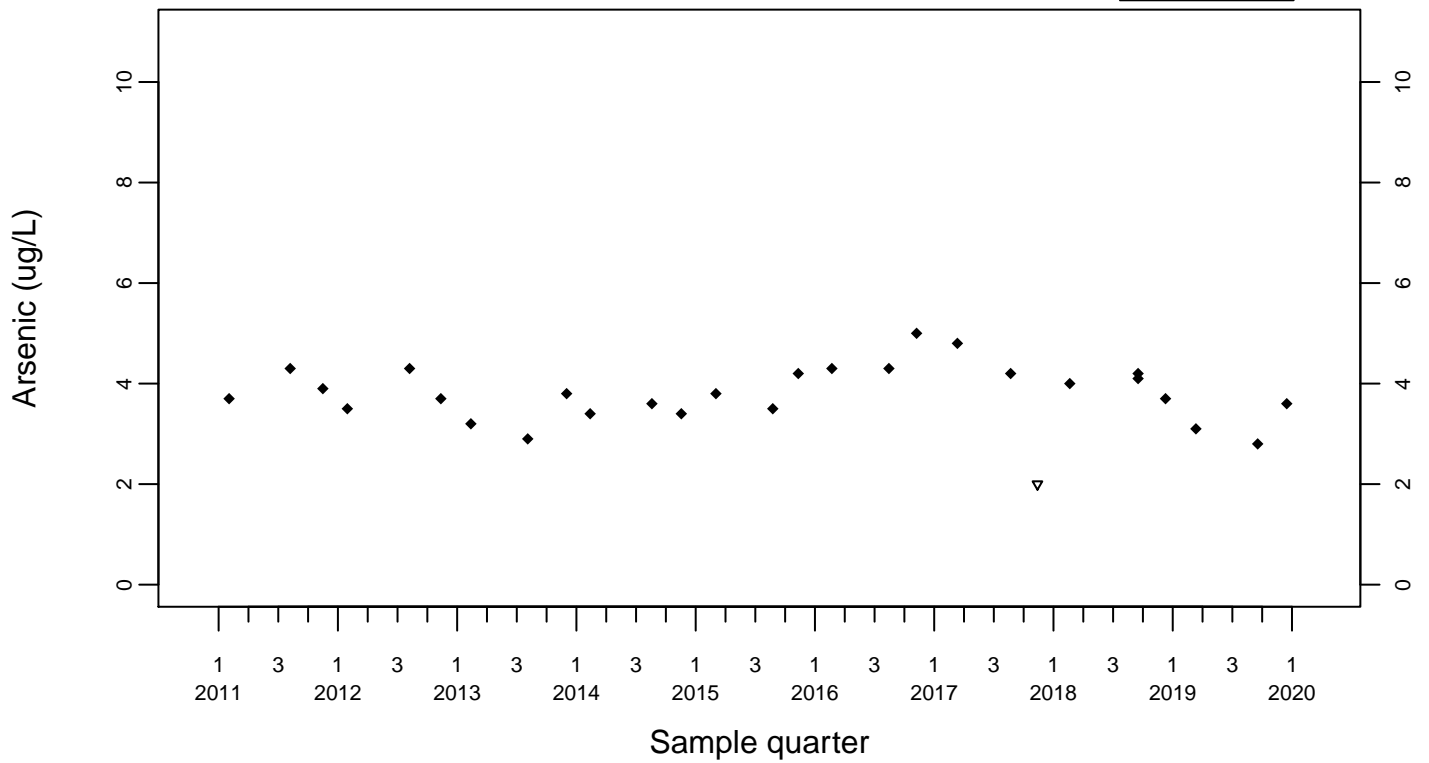
Upgradient Monitor Well W-7PS



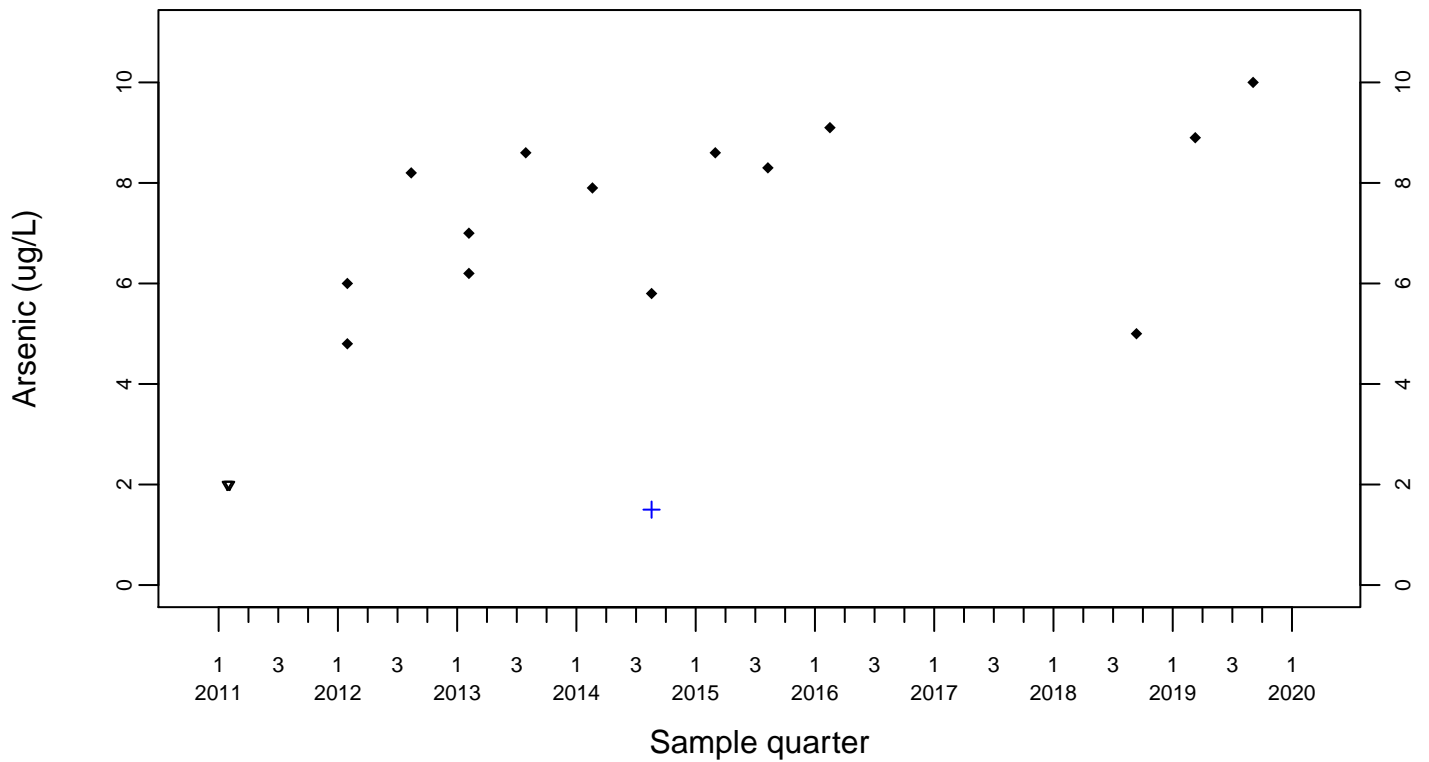
Sewage Ponds Ground Water Arsenic (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



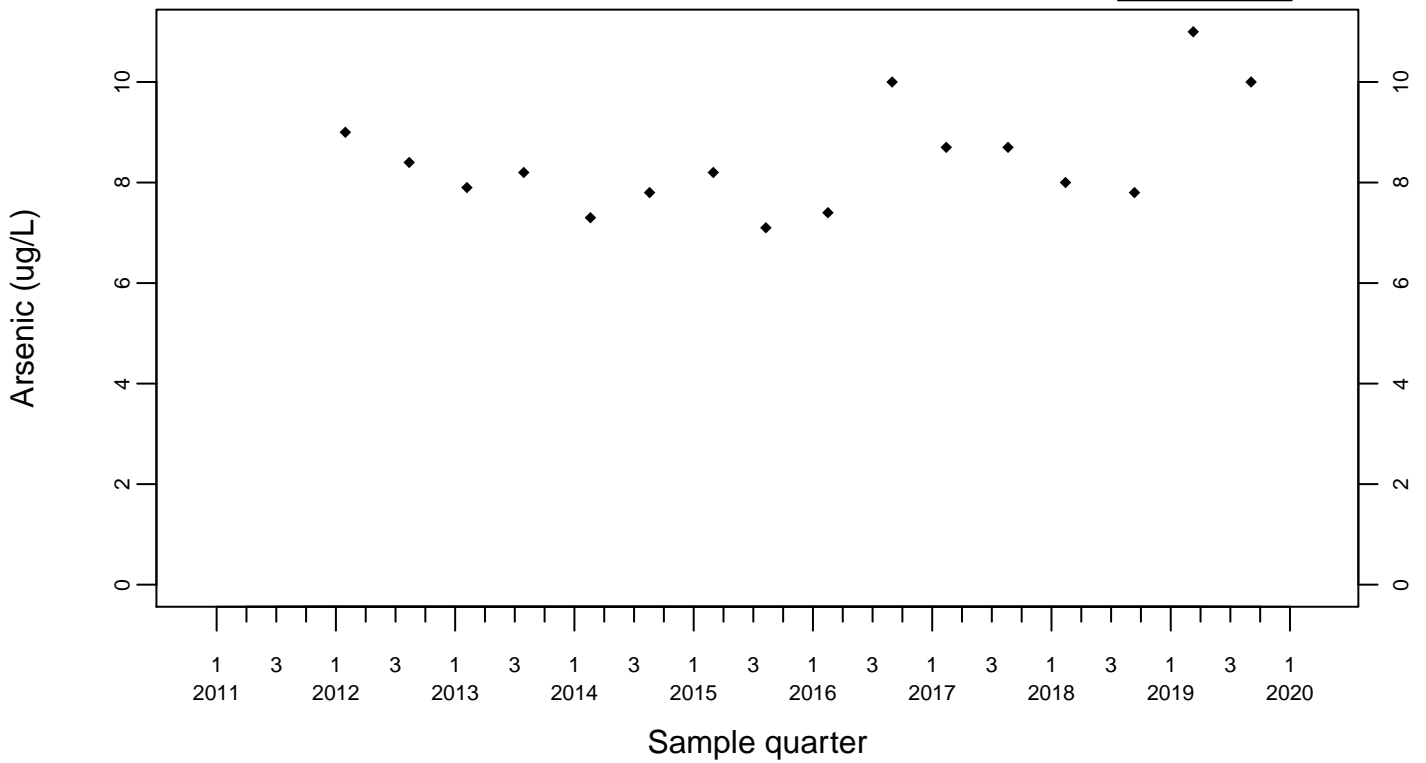
Downgradient Monitor Well W-25N-23



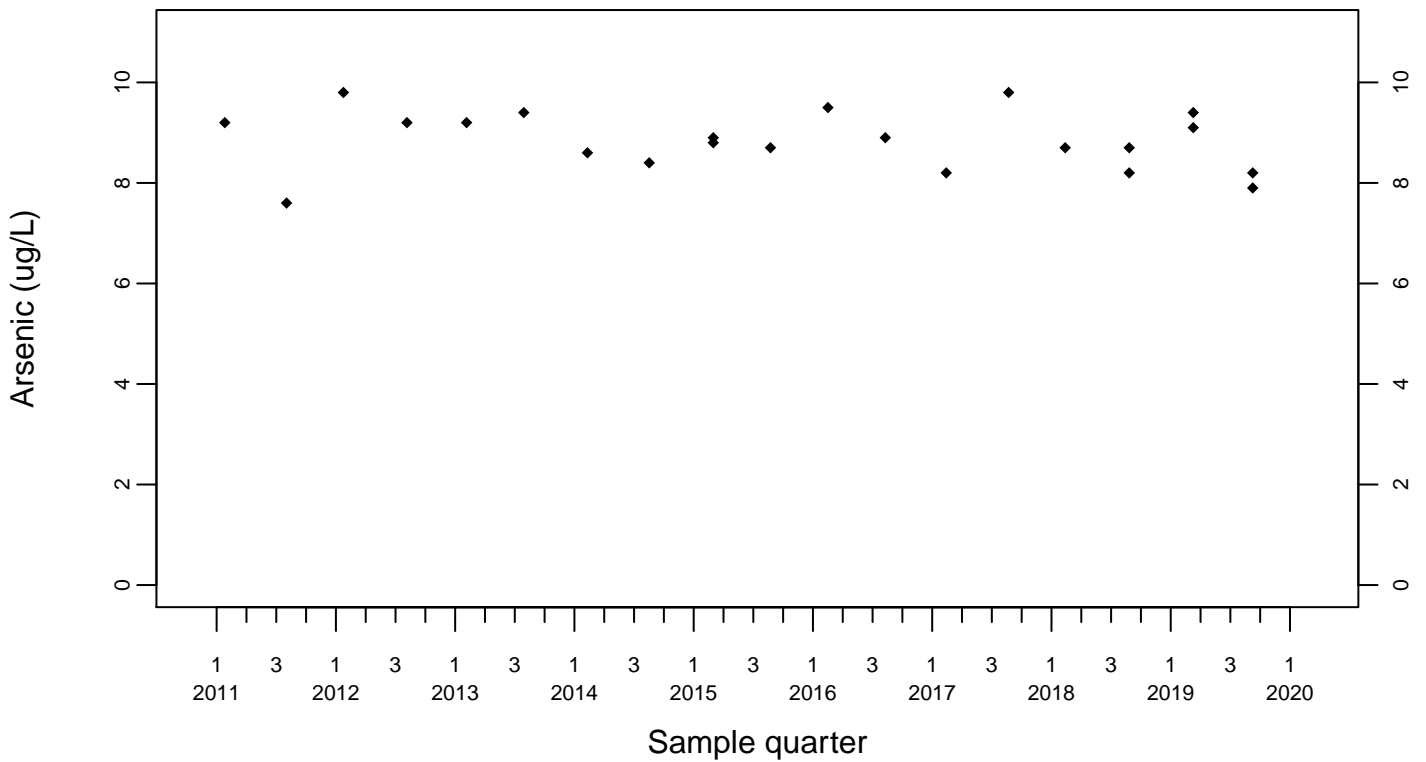
Sewage Ponds Ground Water
Arsenic (ug/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



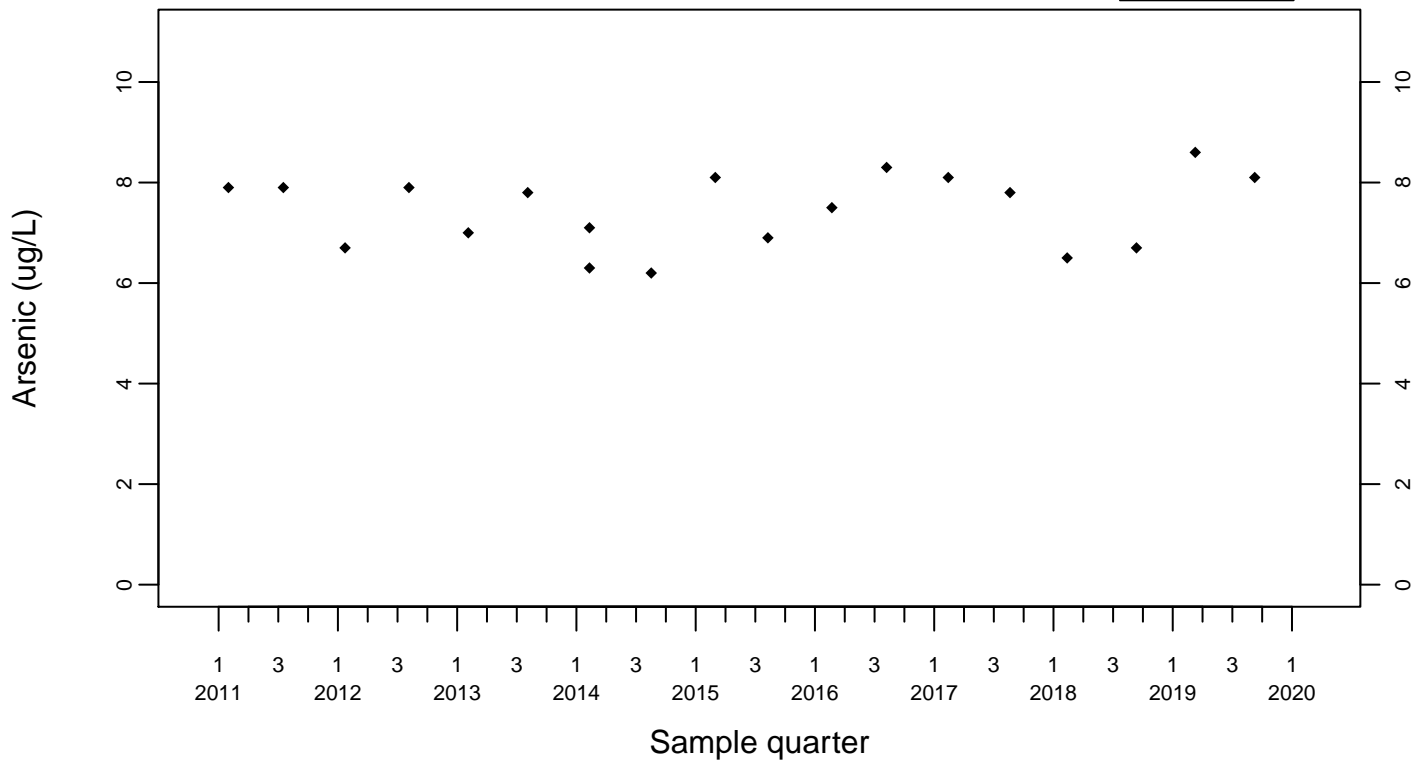
Downgradient Monitor Well W-26R-01



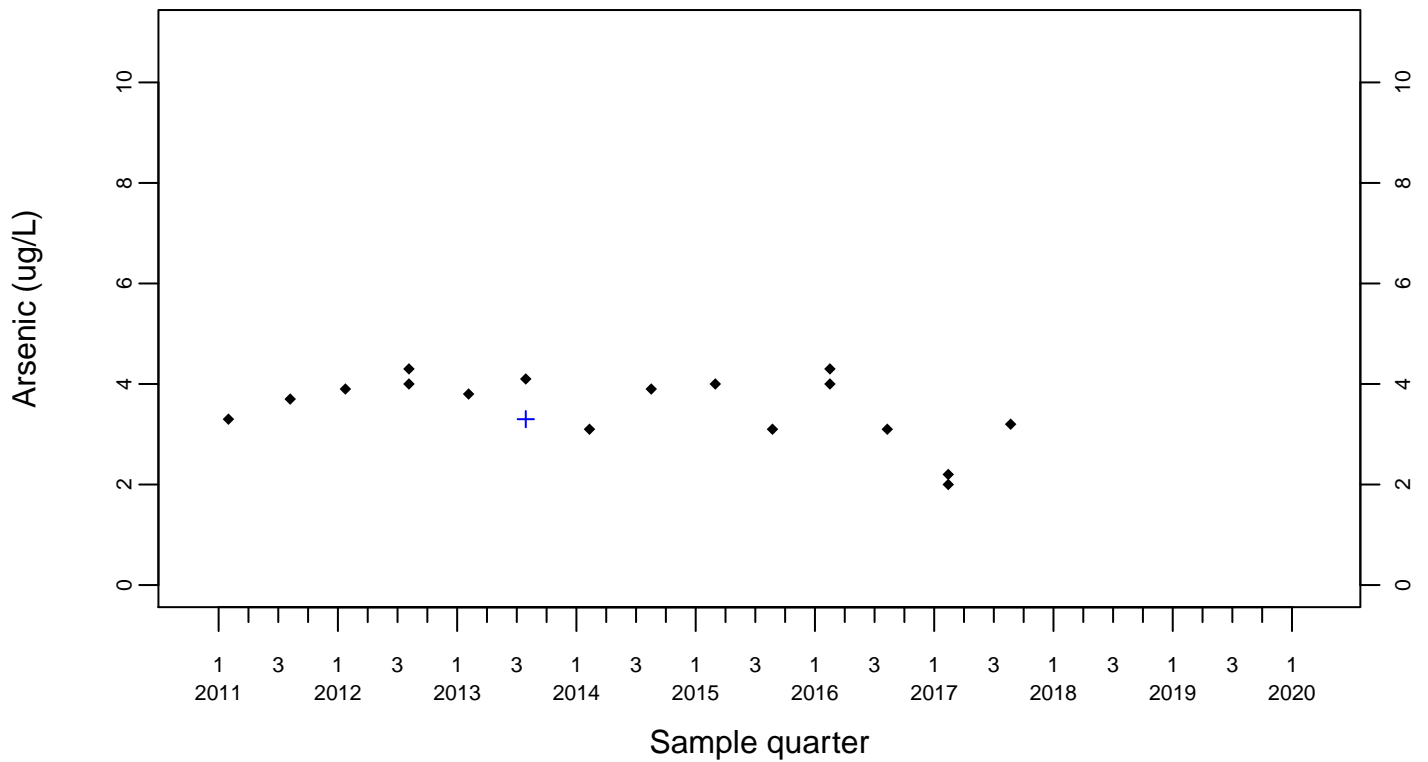
Sewage Ponds Ground Water
Arsenic (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL

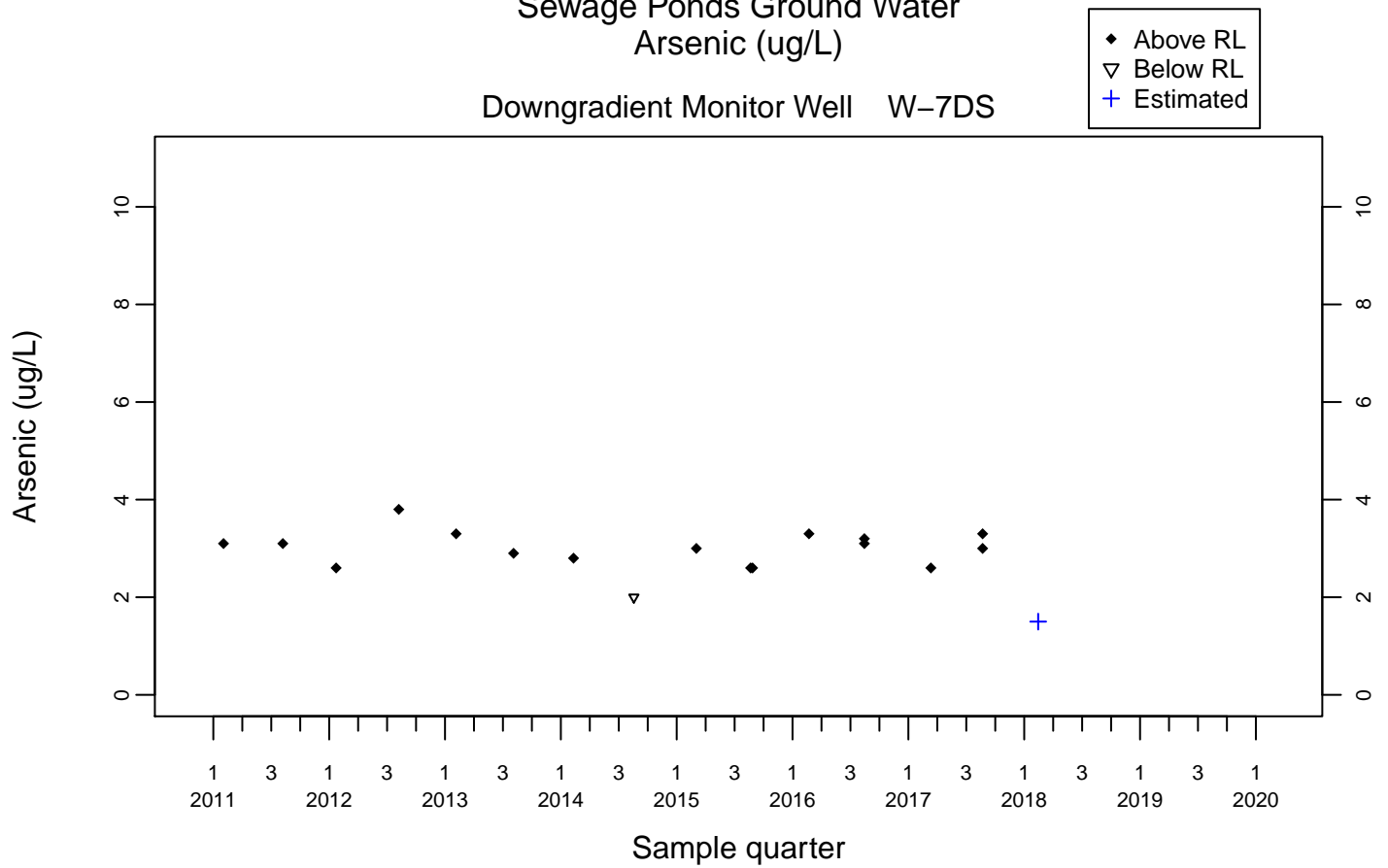


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Arsenic (ug/L)

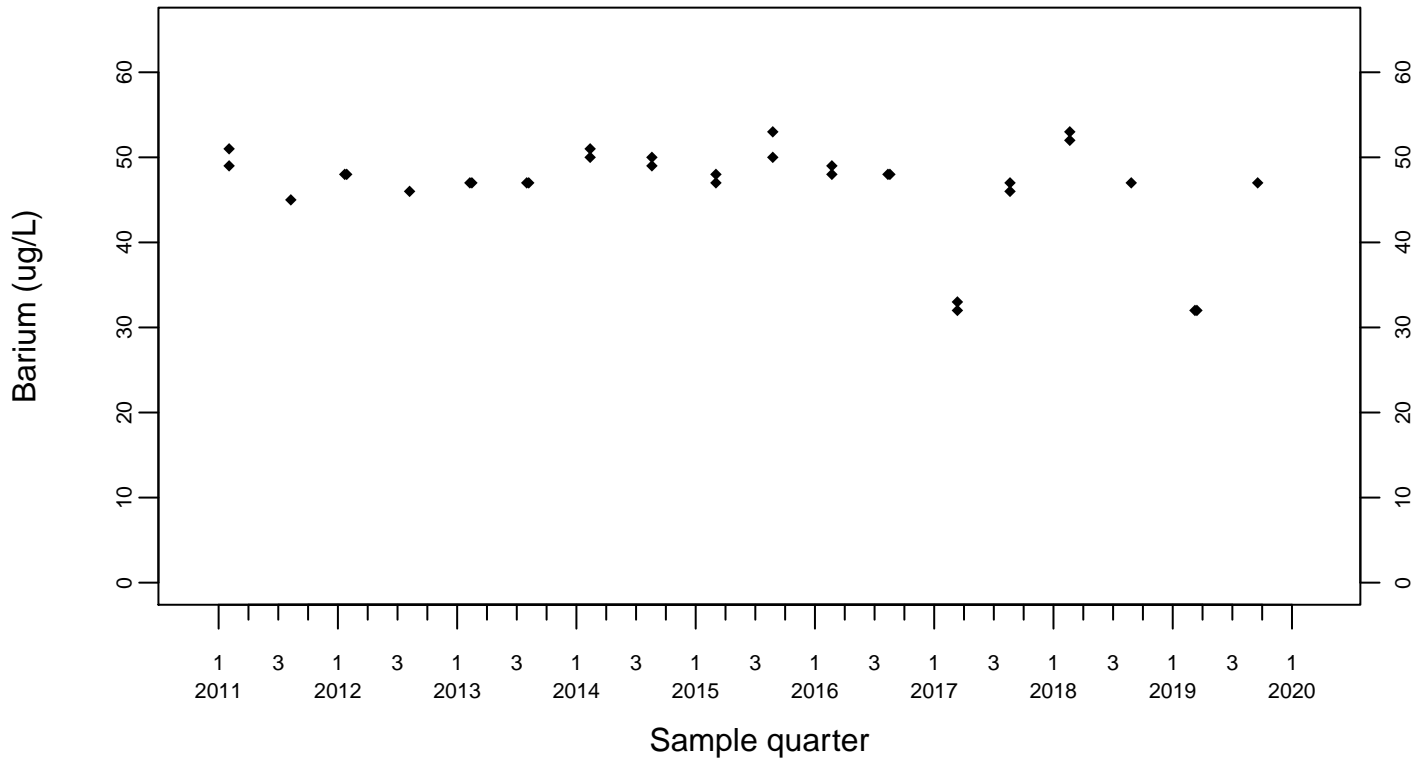
Downgradient Monitor Well W-7DS



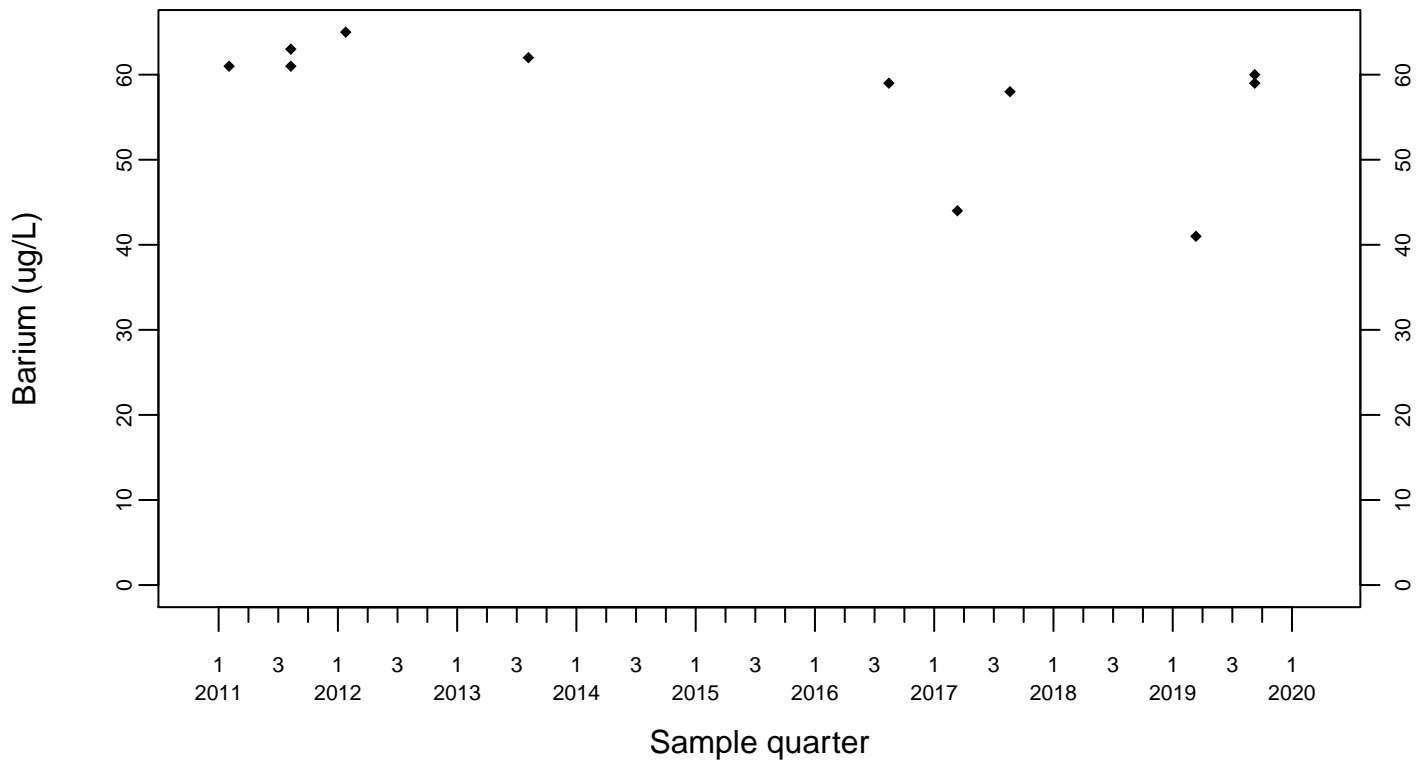
Sewage Ponds Ground Water
Barium (ug/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



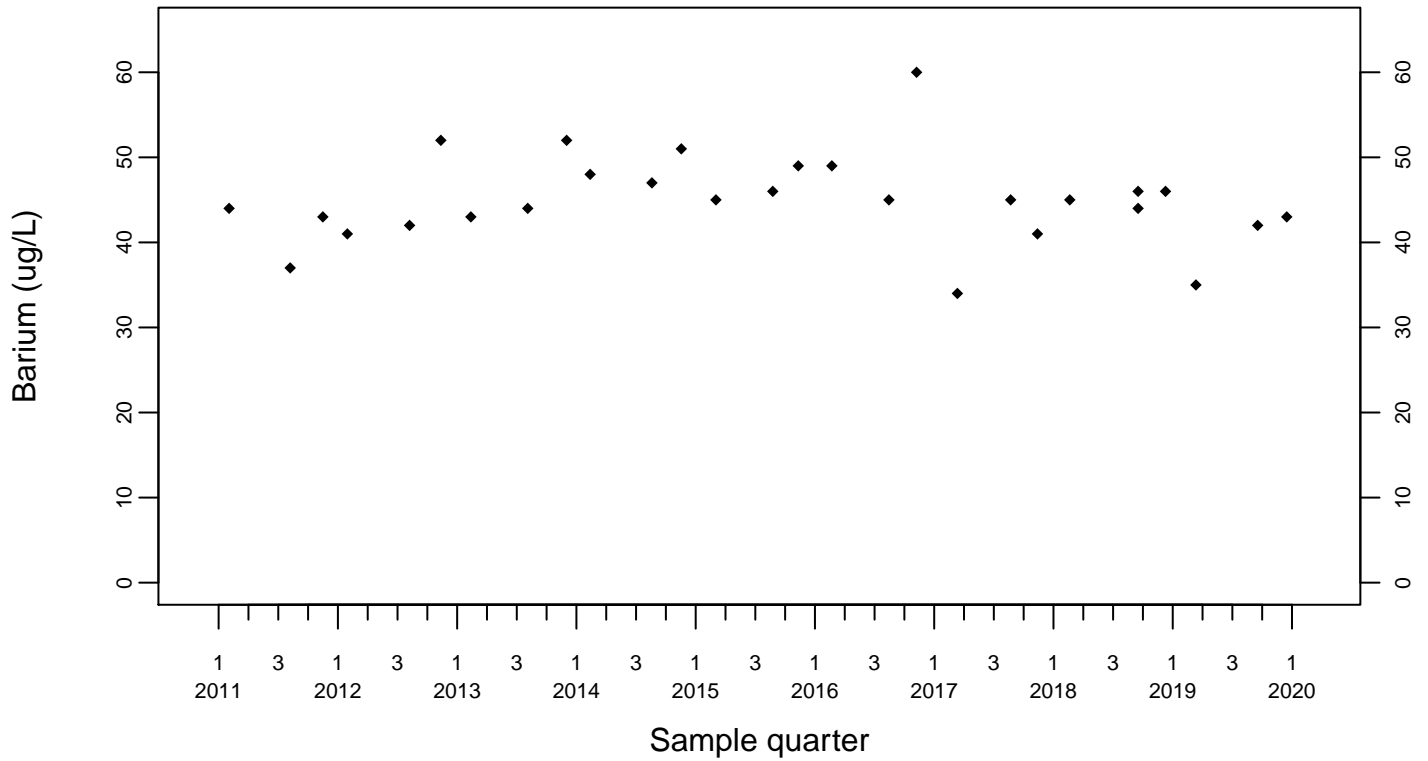
Upgradient Monitor Well W-7PS



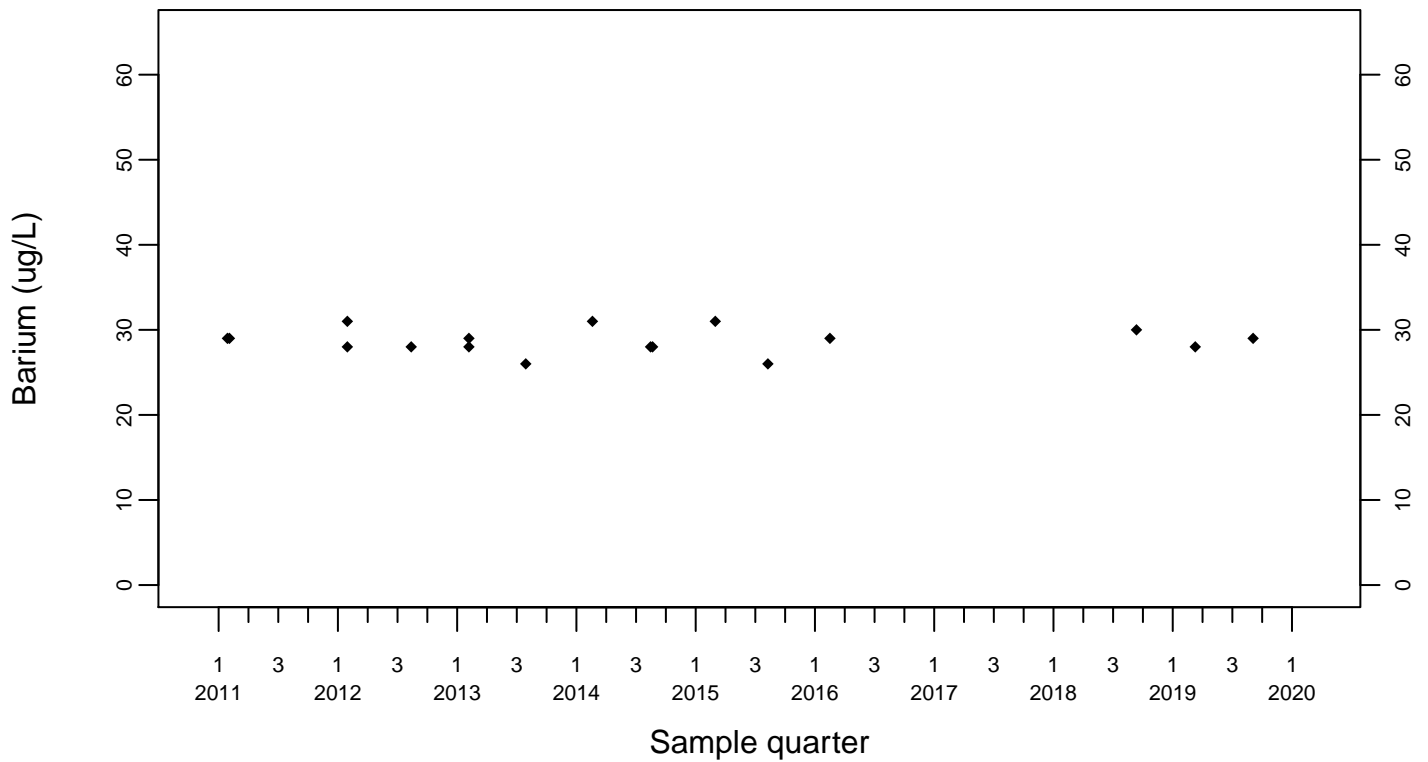
Sewage Ponds Ground Water
Barium (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



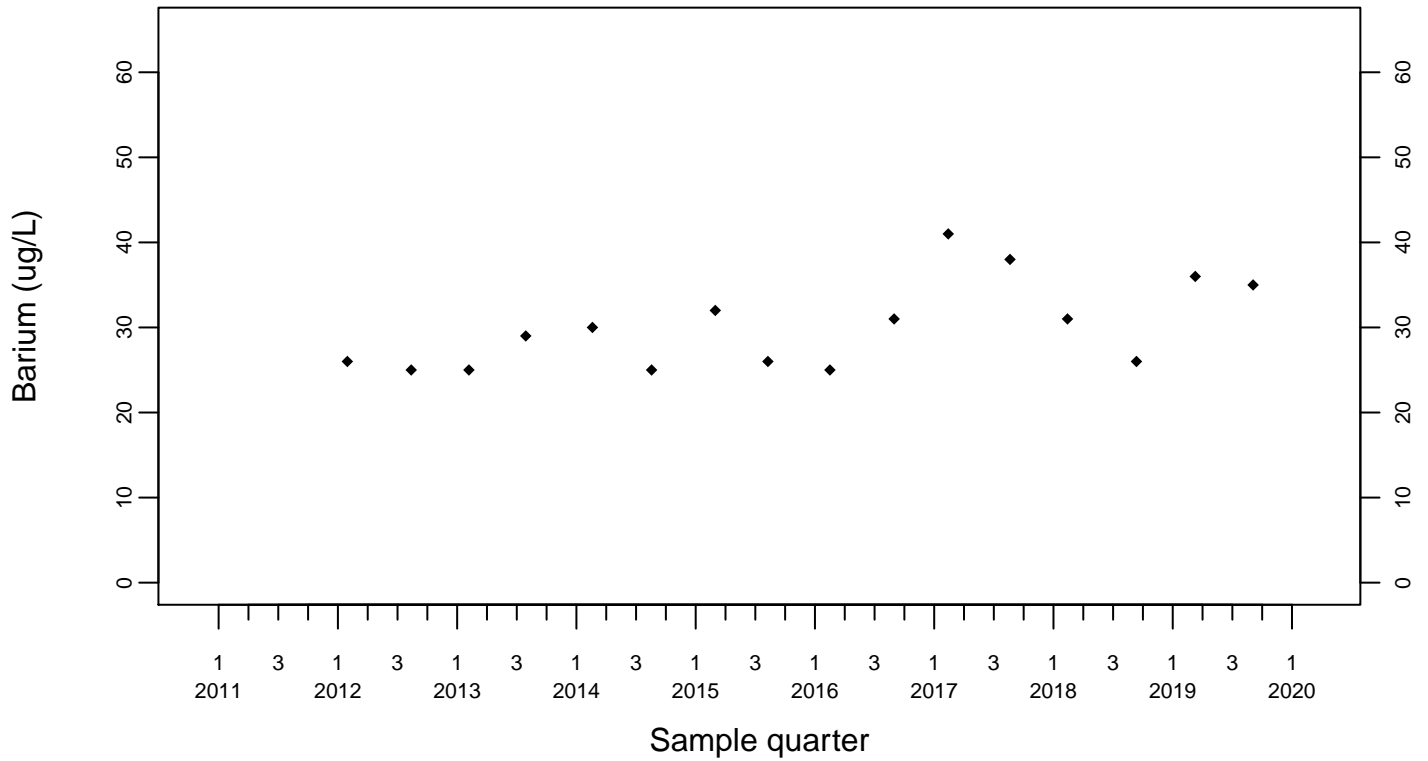
Downgradient Monitor Well W-25N-23



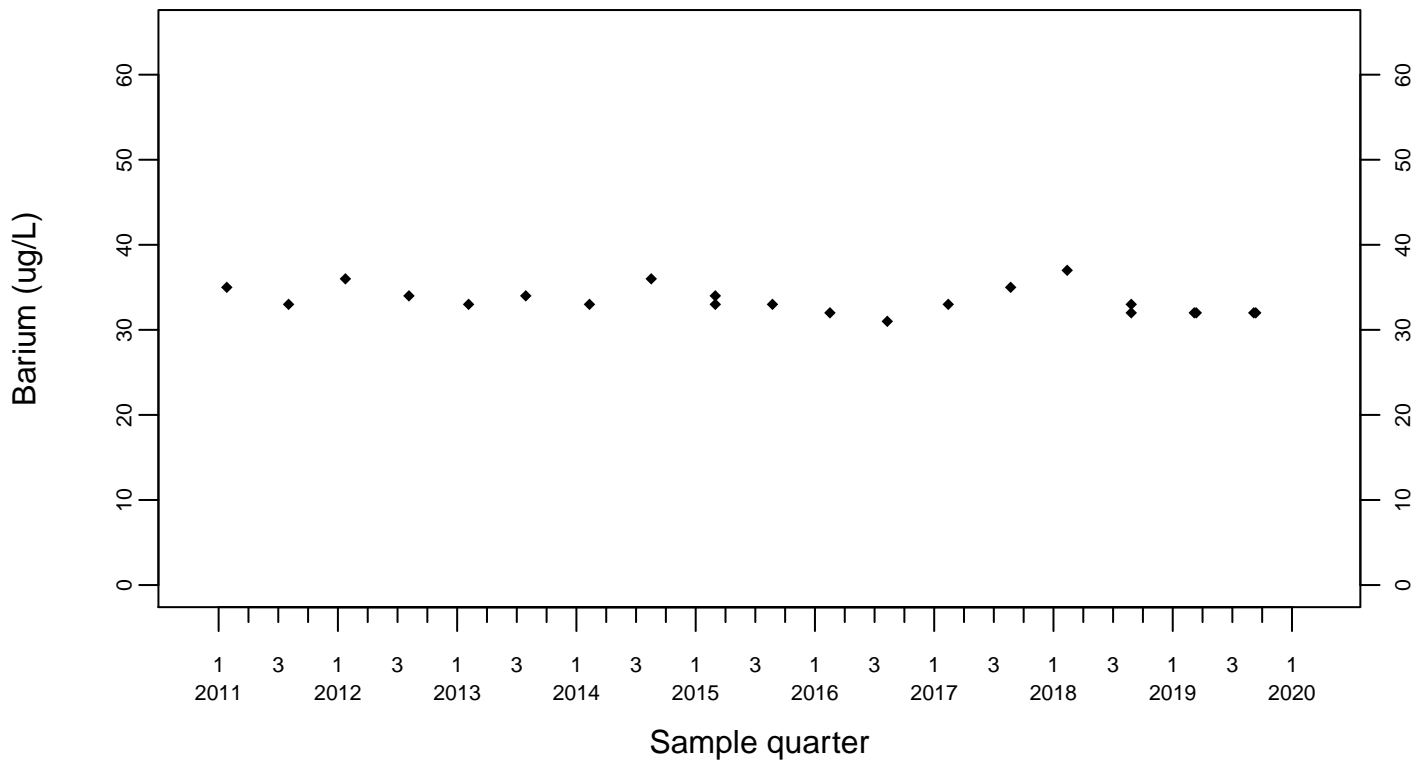
Sewage Ponds Ground Water
Barium (ug/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



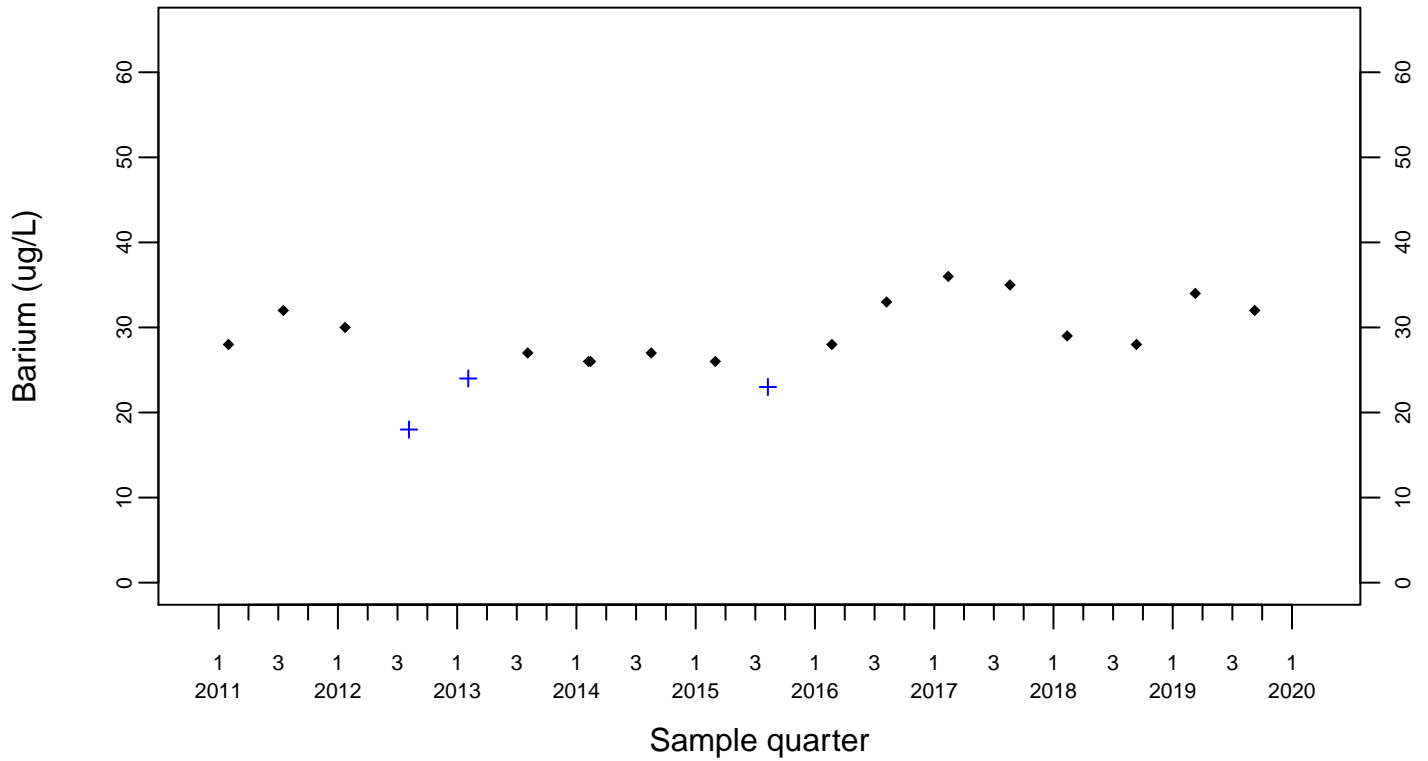
Downgradient Monitor Well W-26R-01



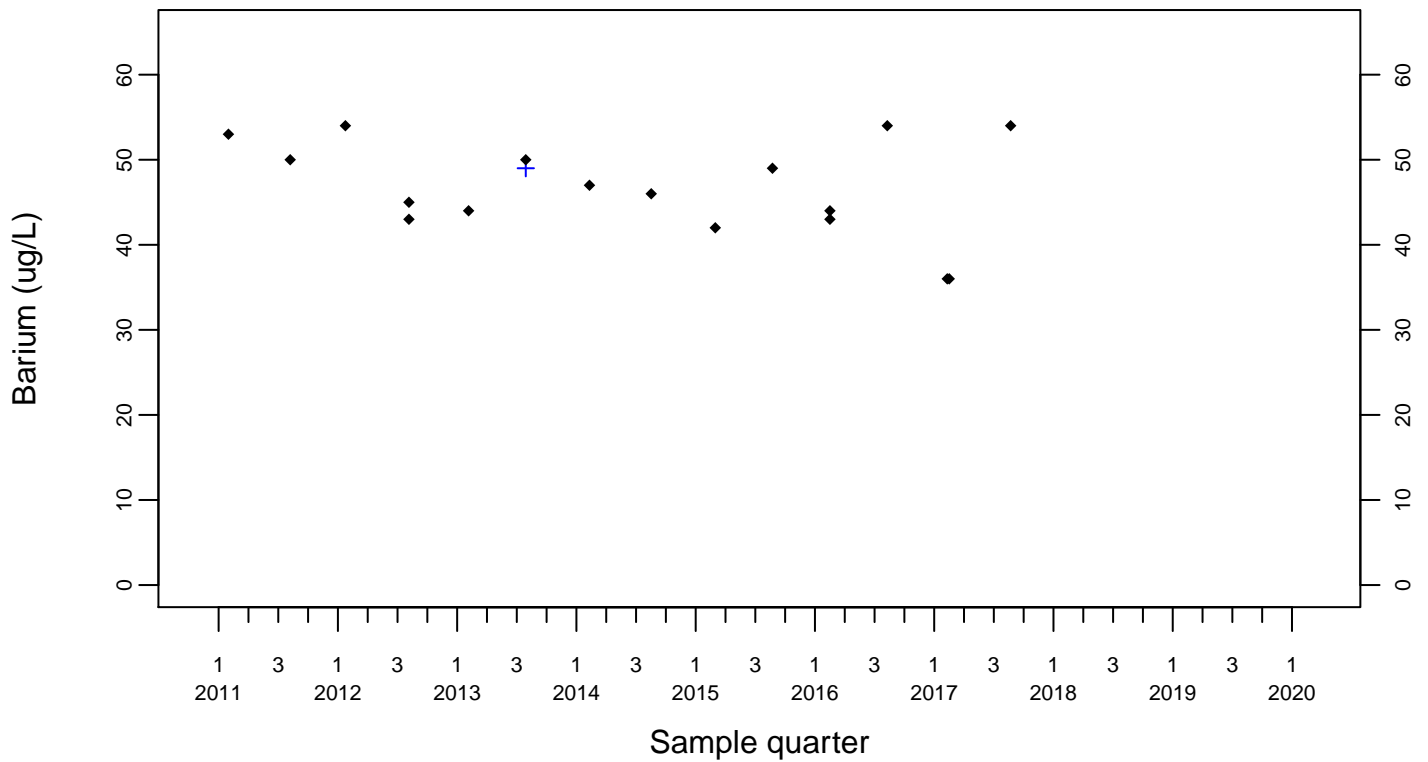
Sewage Ponds Ground Water
Barium (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
+ Estimated

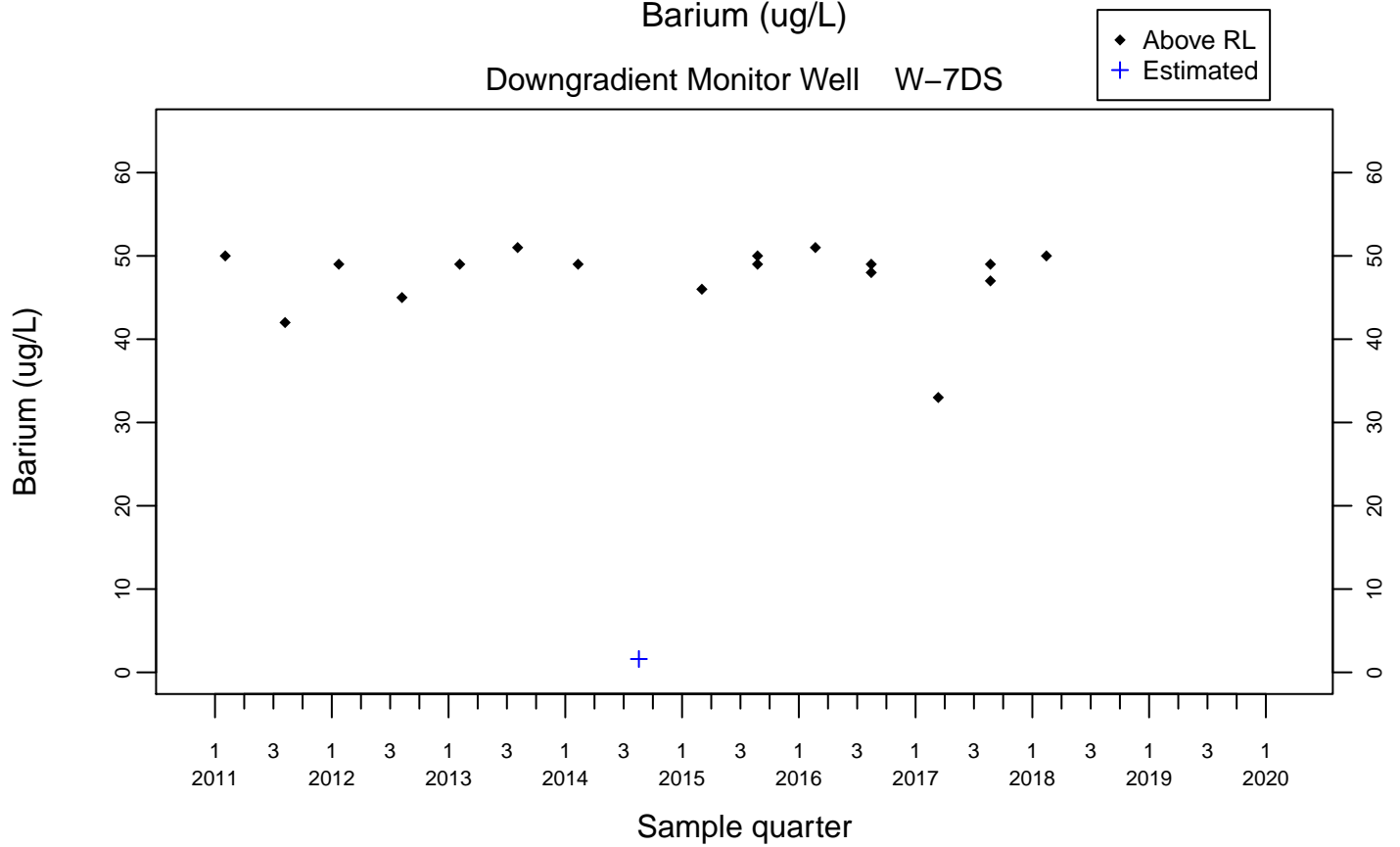


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water Barium (ug/L)

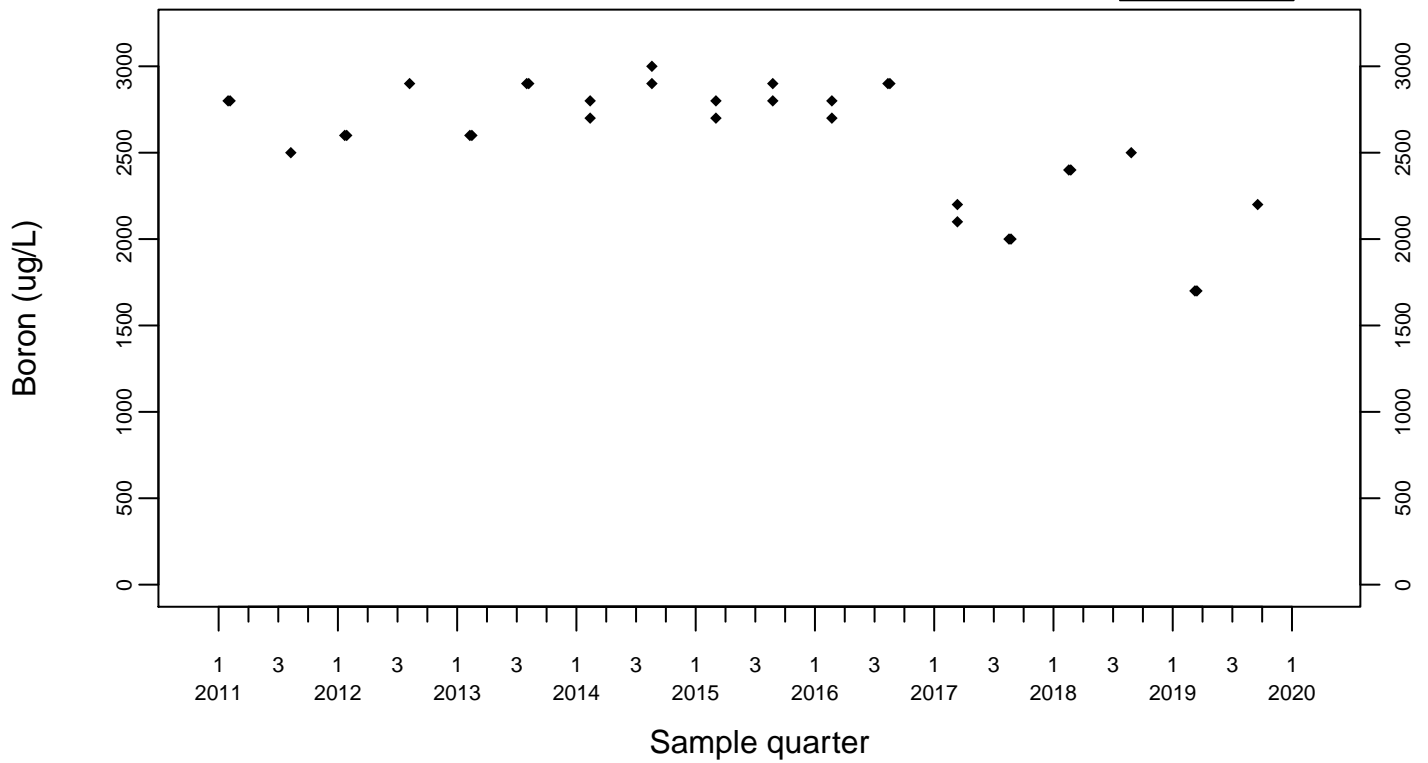
Downgradient Monitor Well W-7DS



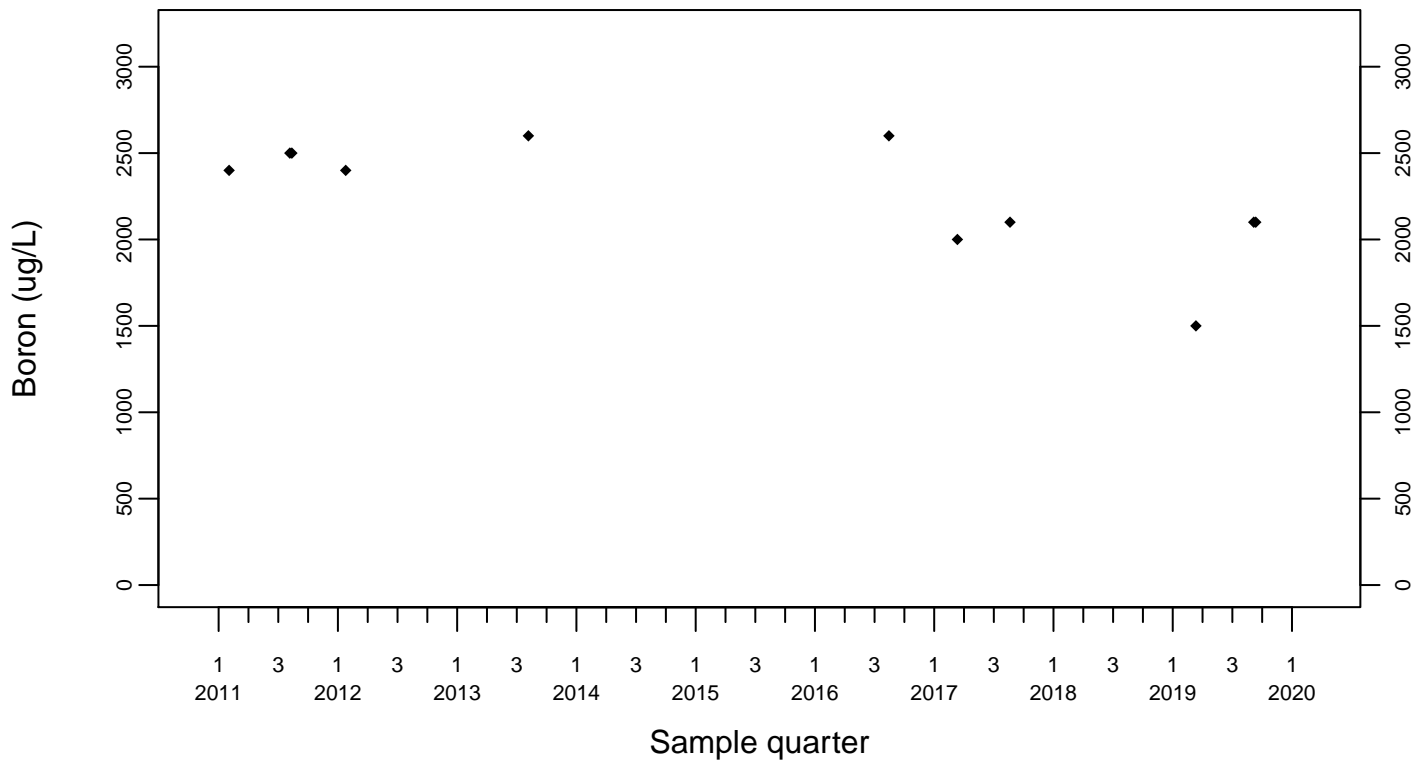
Sewage Ponds Ground Water
Boron (ug/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



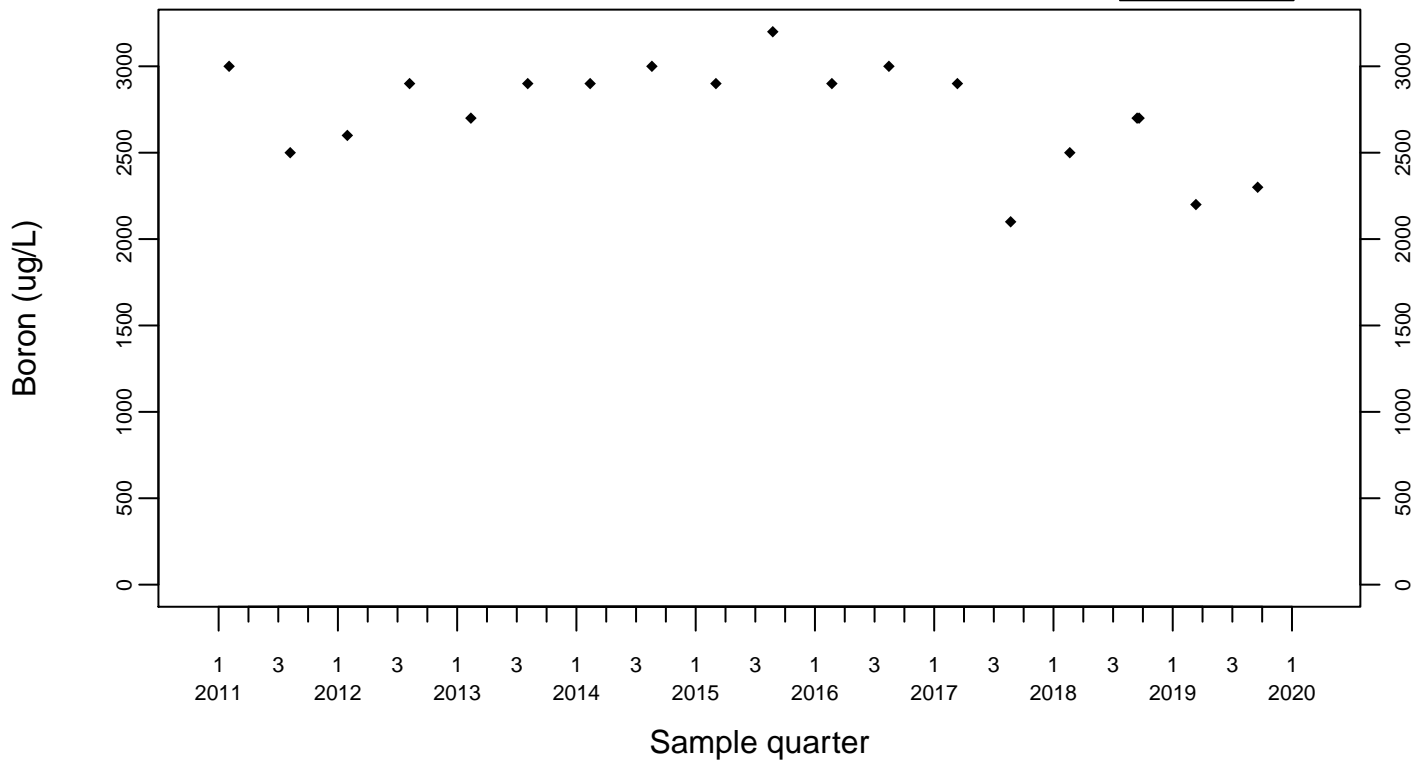
Upgradient Monitor Well W-7PS



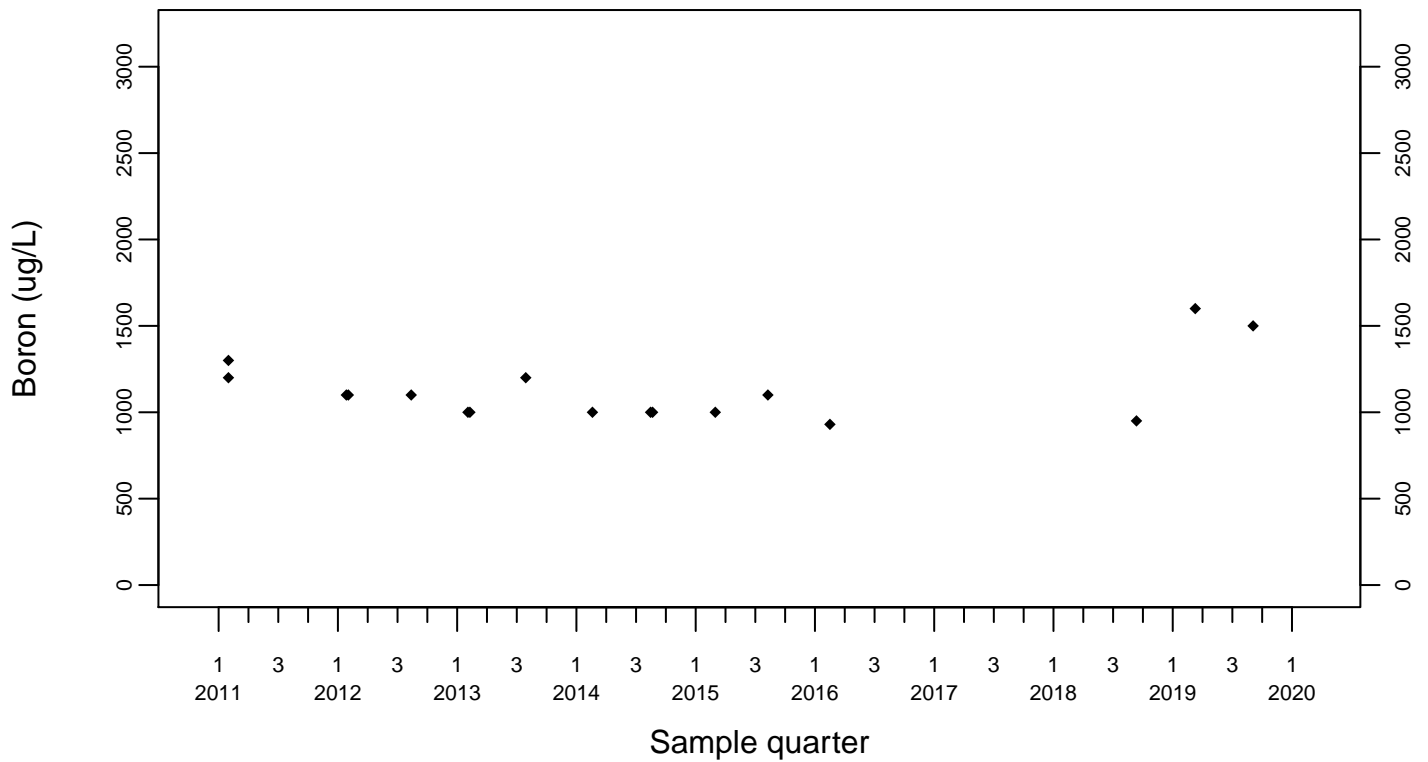
Sewage Ponds Ground Water Boron (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



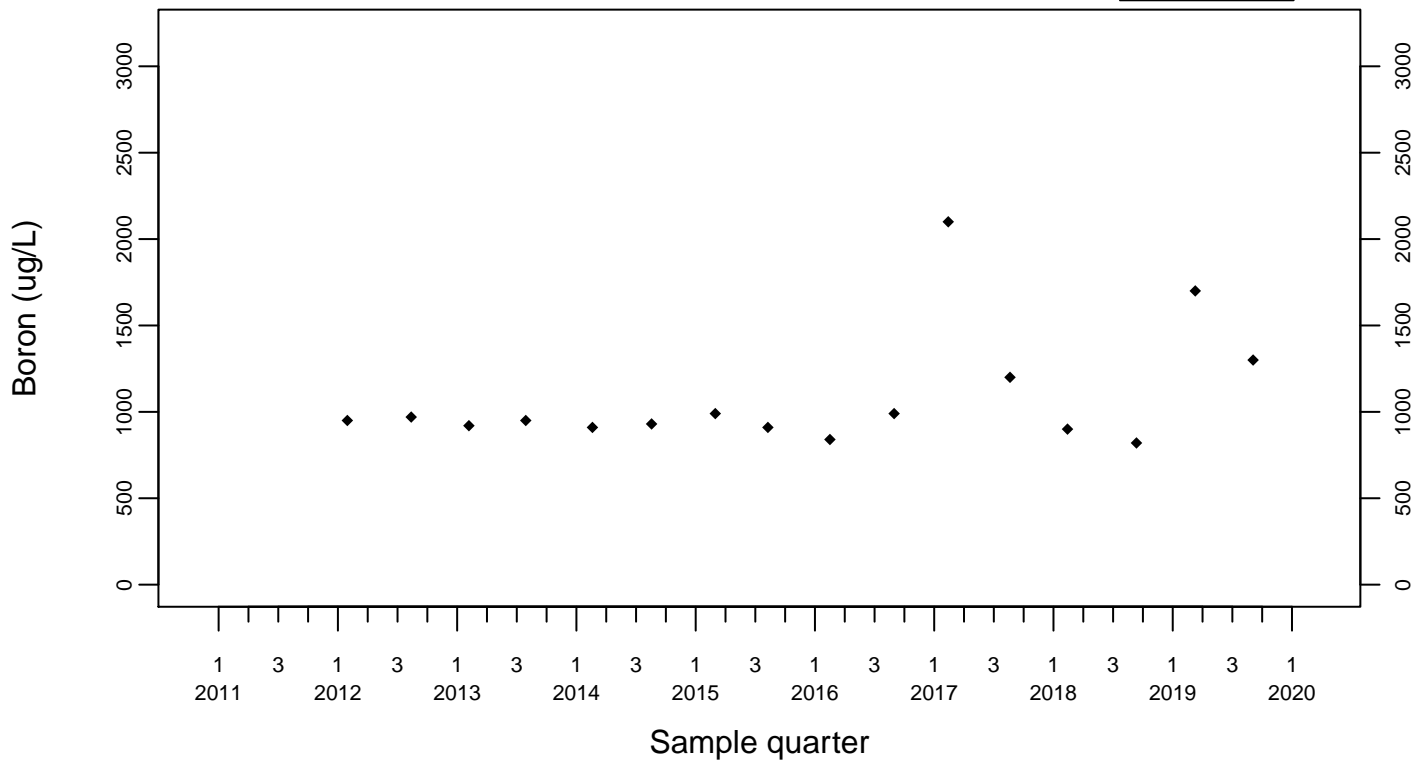
Downgradient Monitor Well W-25N-23



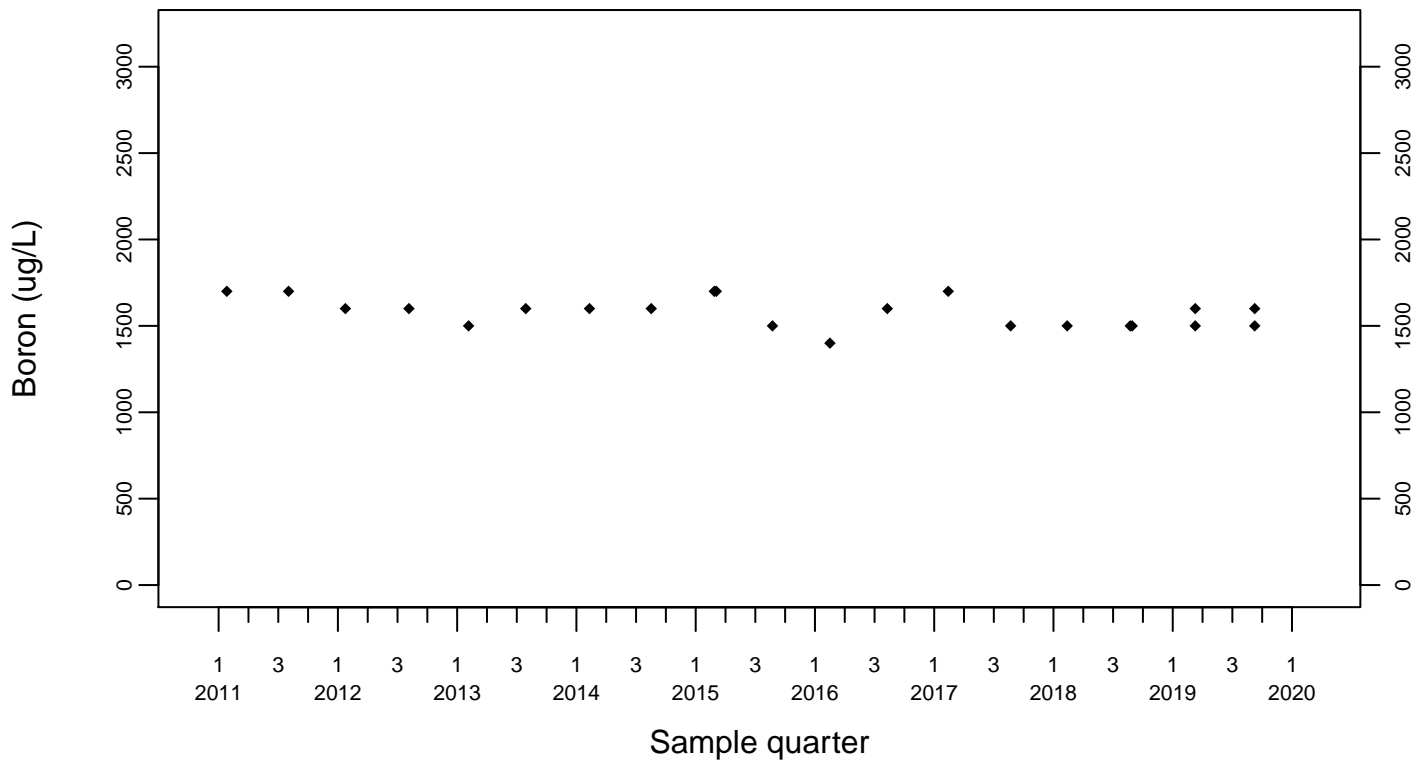
Sewage Ponds Ground Water
Boron (ug/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



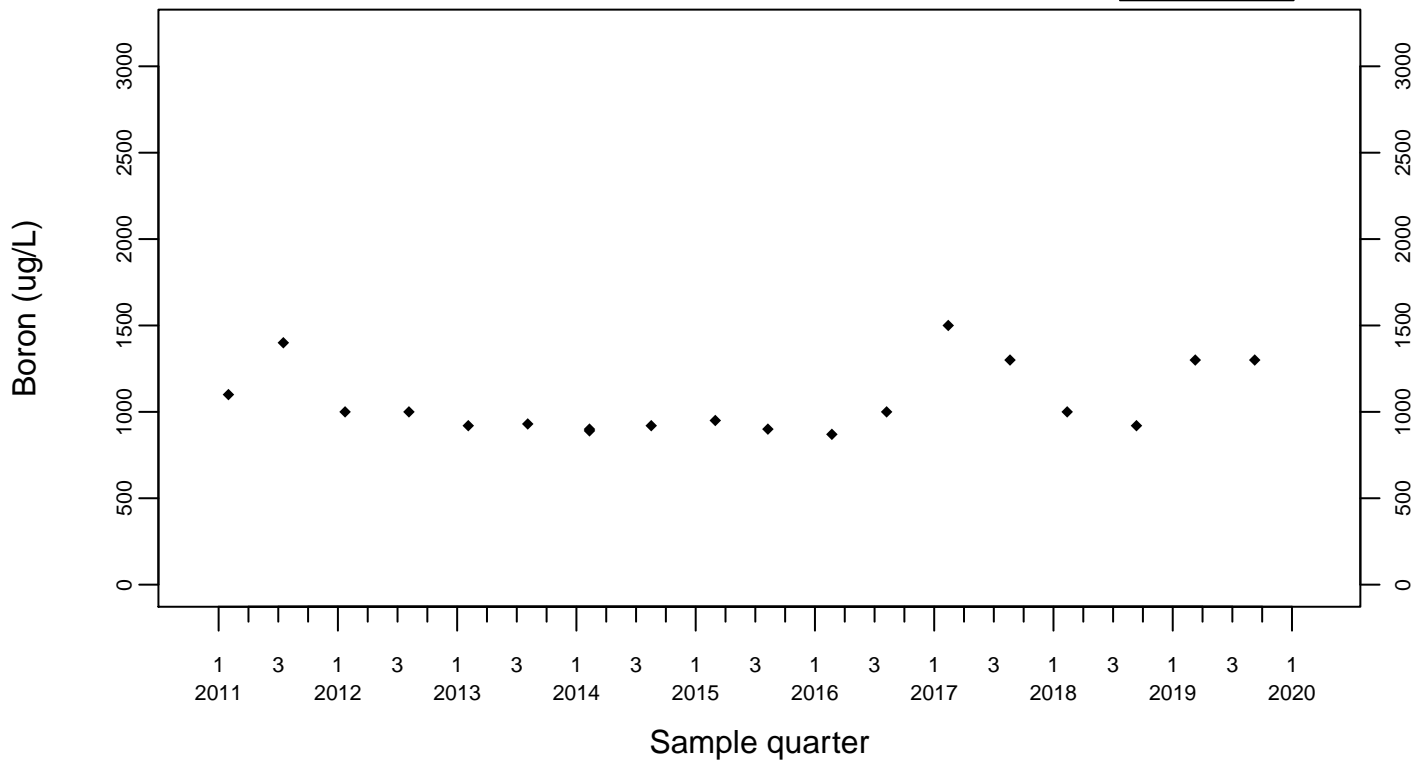
Downgradient Monitor Well W-26R-01



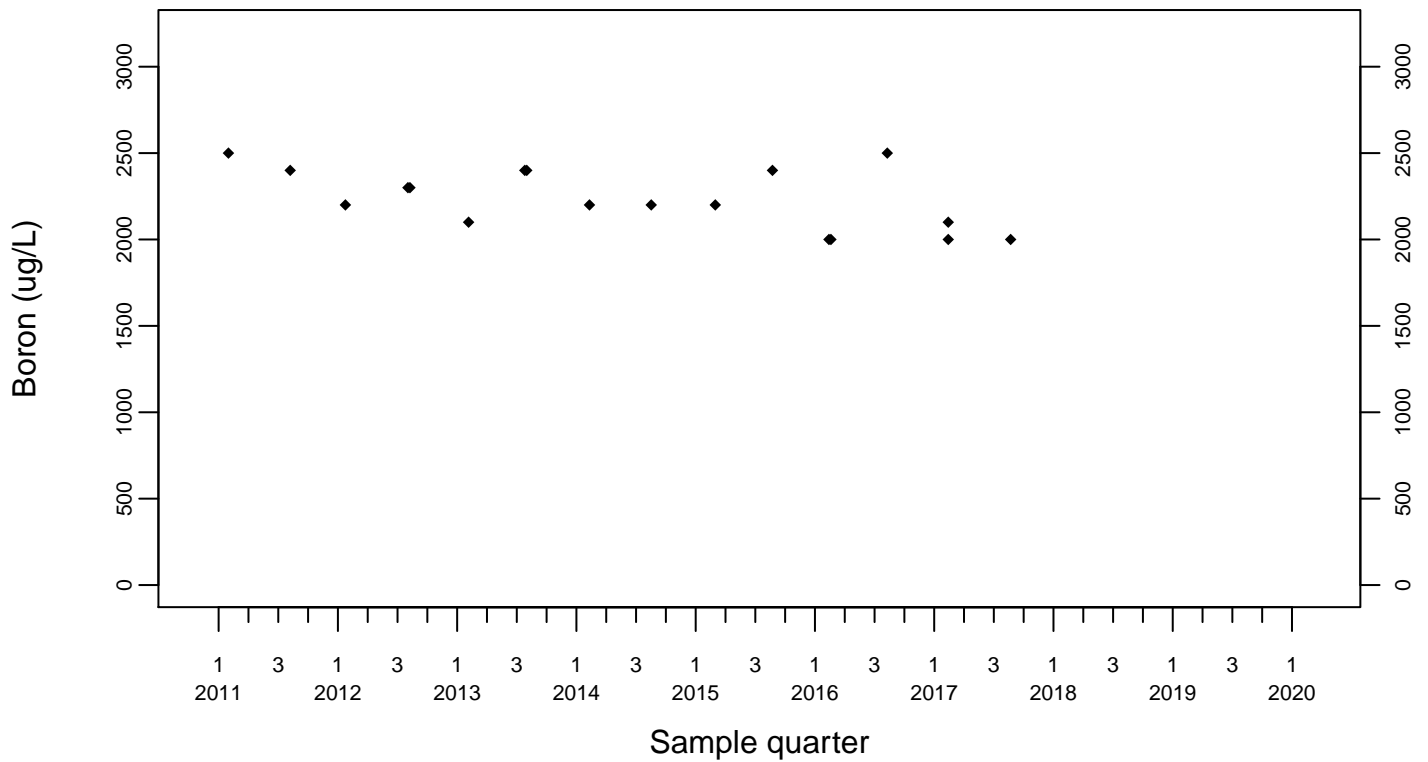
Sewage Ponds Ground Water
Boron (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



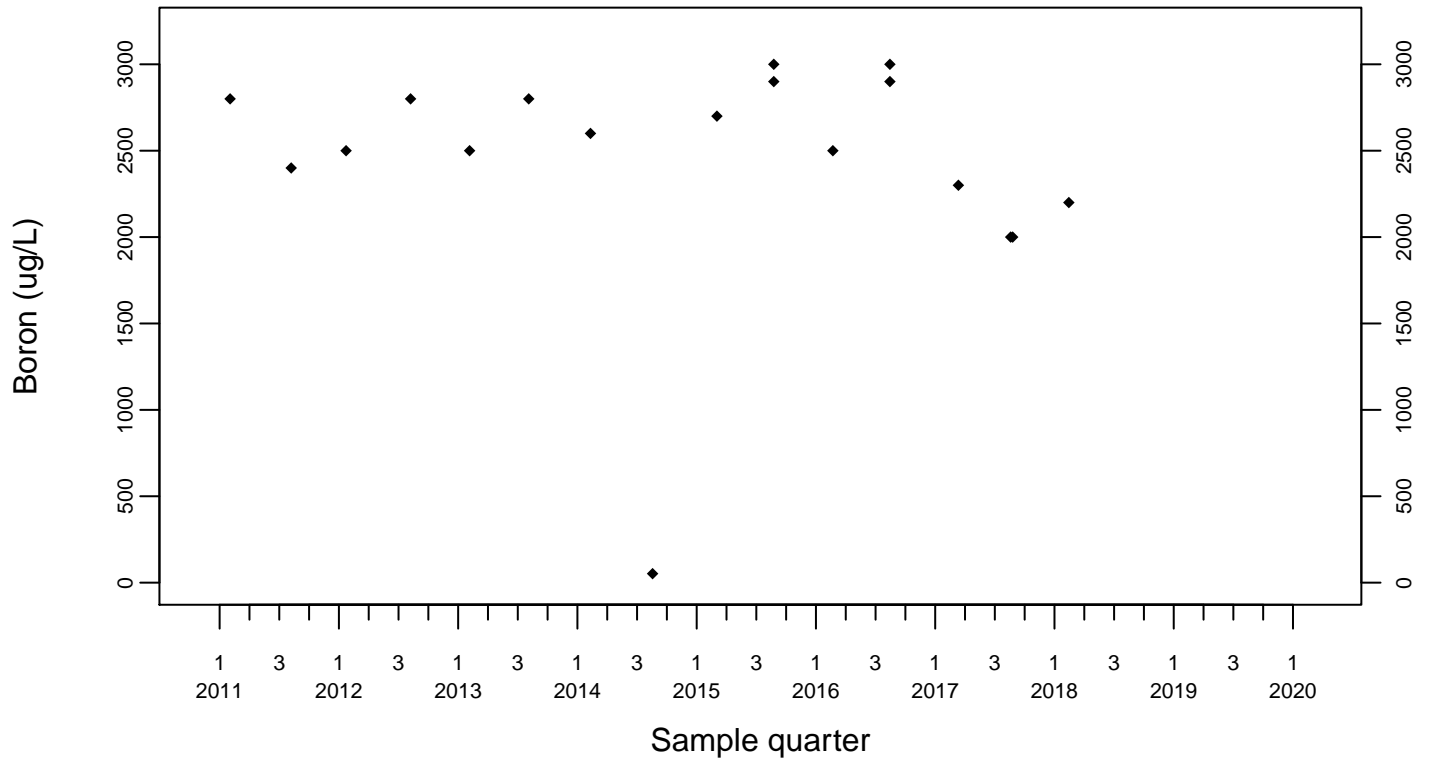
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water Boron (ug/L)

Downgradient Monitor Well W-7DS

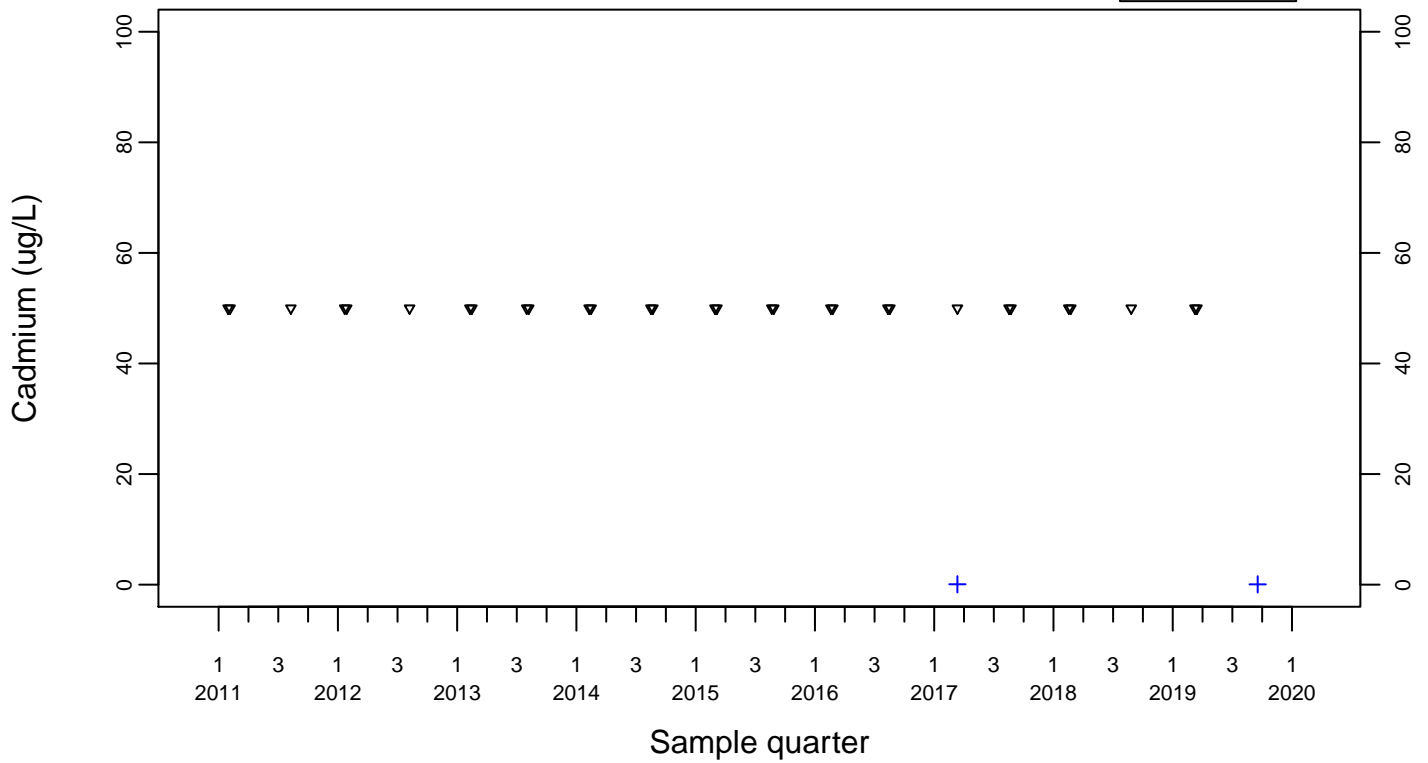
◆ Above RL
▽ Below RL



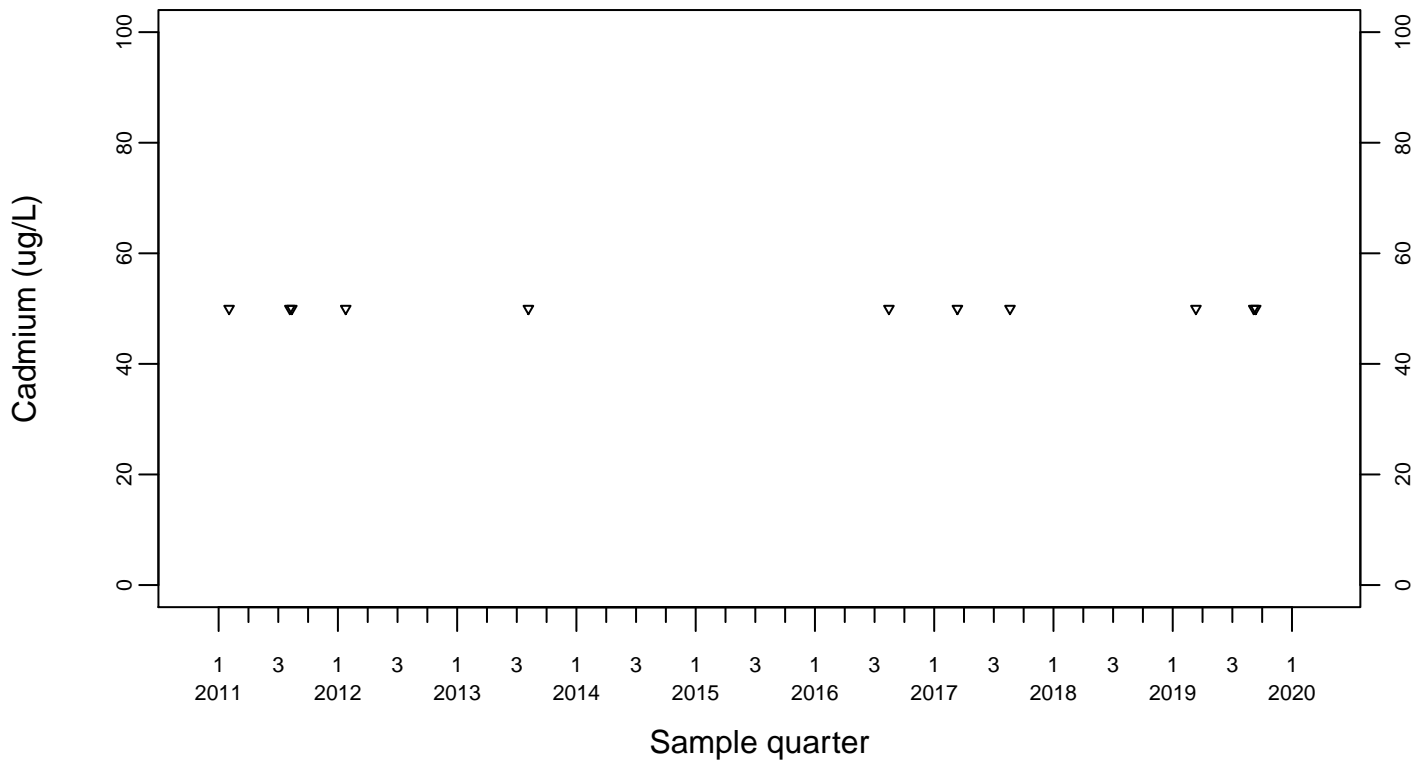
Sewage Ponds Ground Water
Cadmium (ug/L)

Upgradient Monitor Well W-7ES

- ◆ Above RL
- ▽ Below RL
- + Estimated



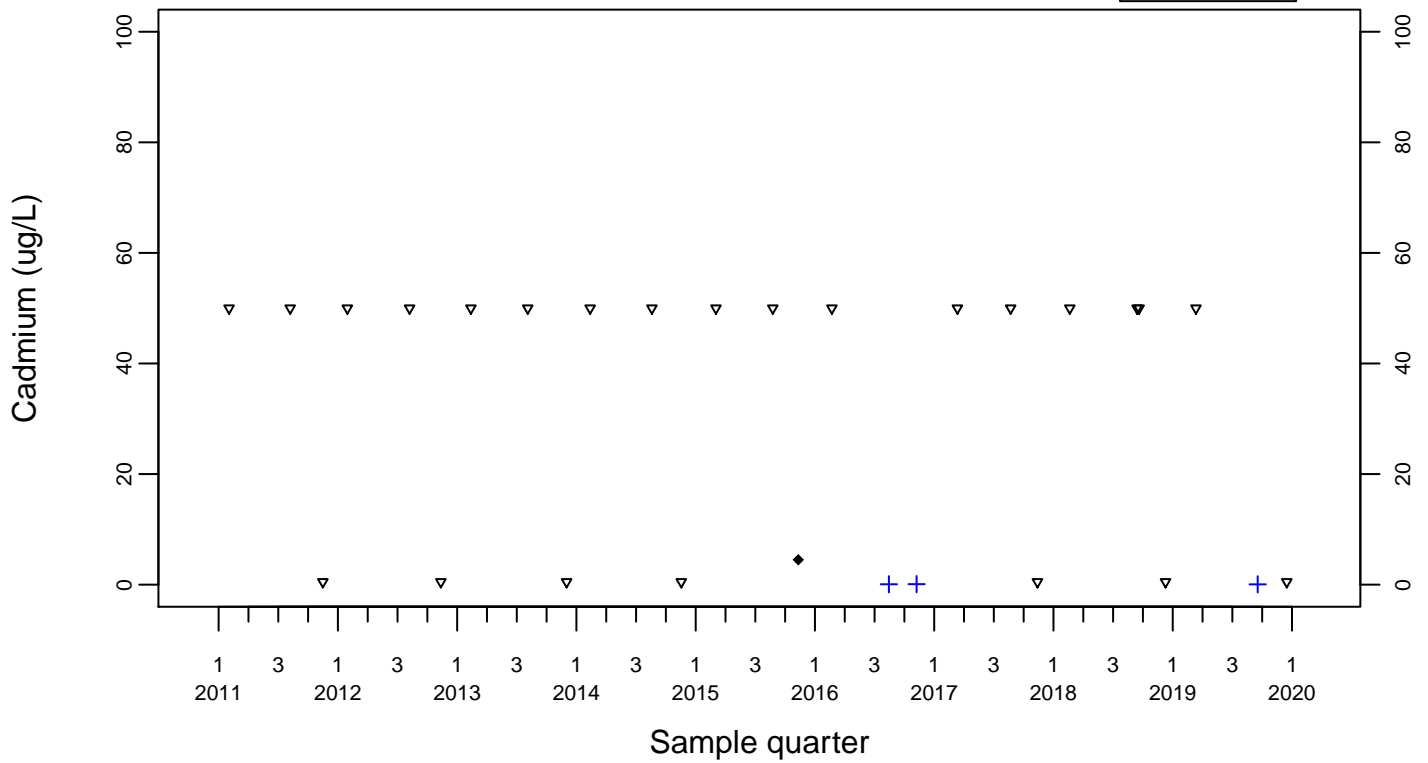
Upgradient Monitor Well W-7PS



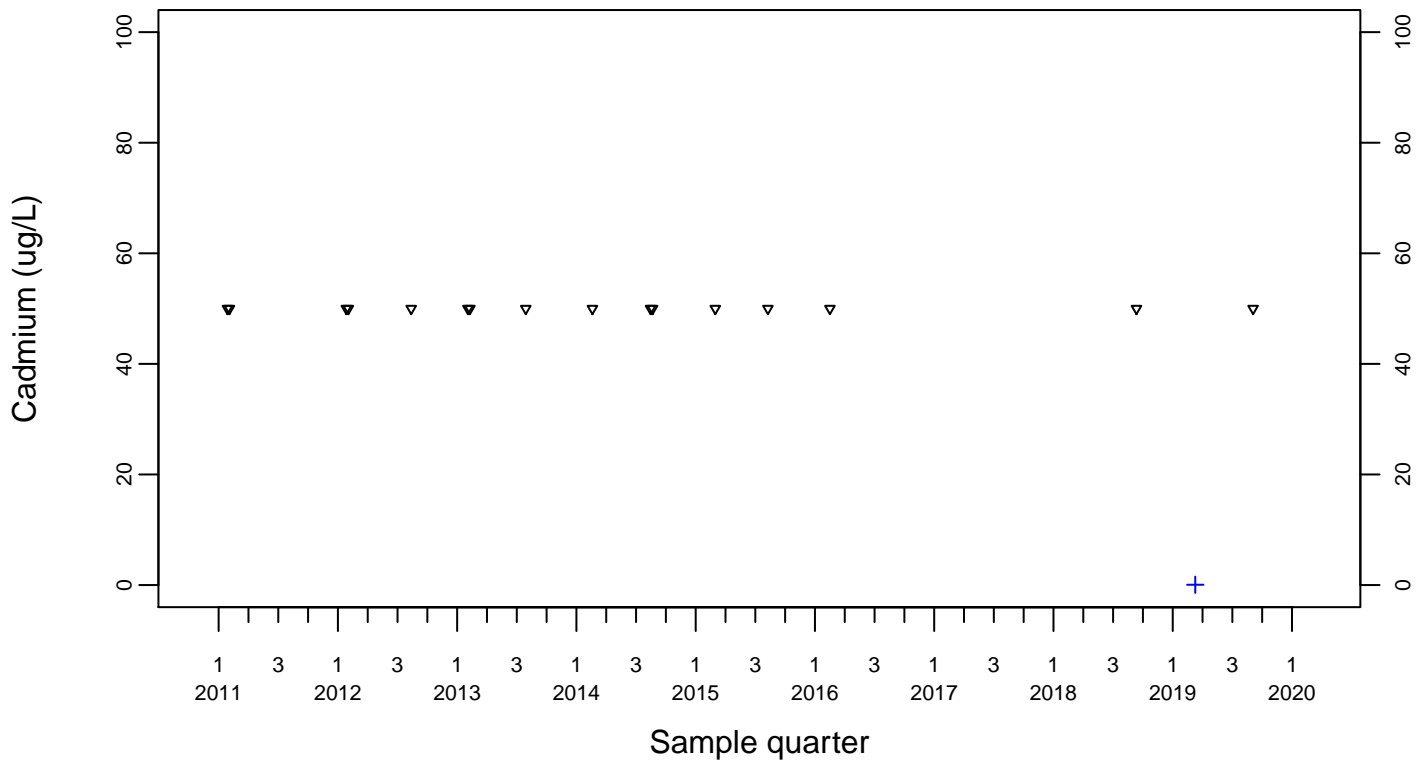
Sewage Ponds Ground Water
Cadmium (ug/L)

Crossgradient Monitor Well W-35A-04

- ◆ Above RL
- ▽ Below RL
- + Estimated



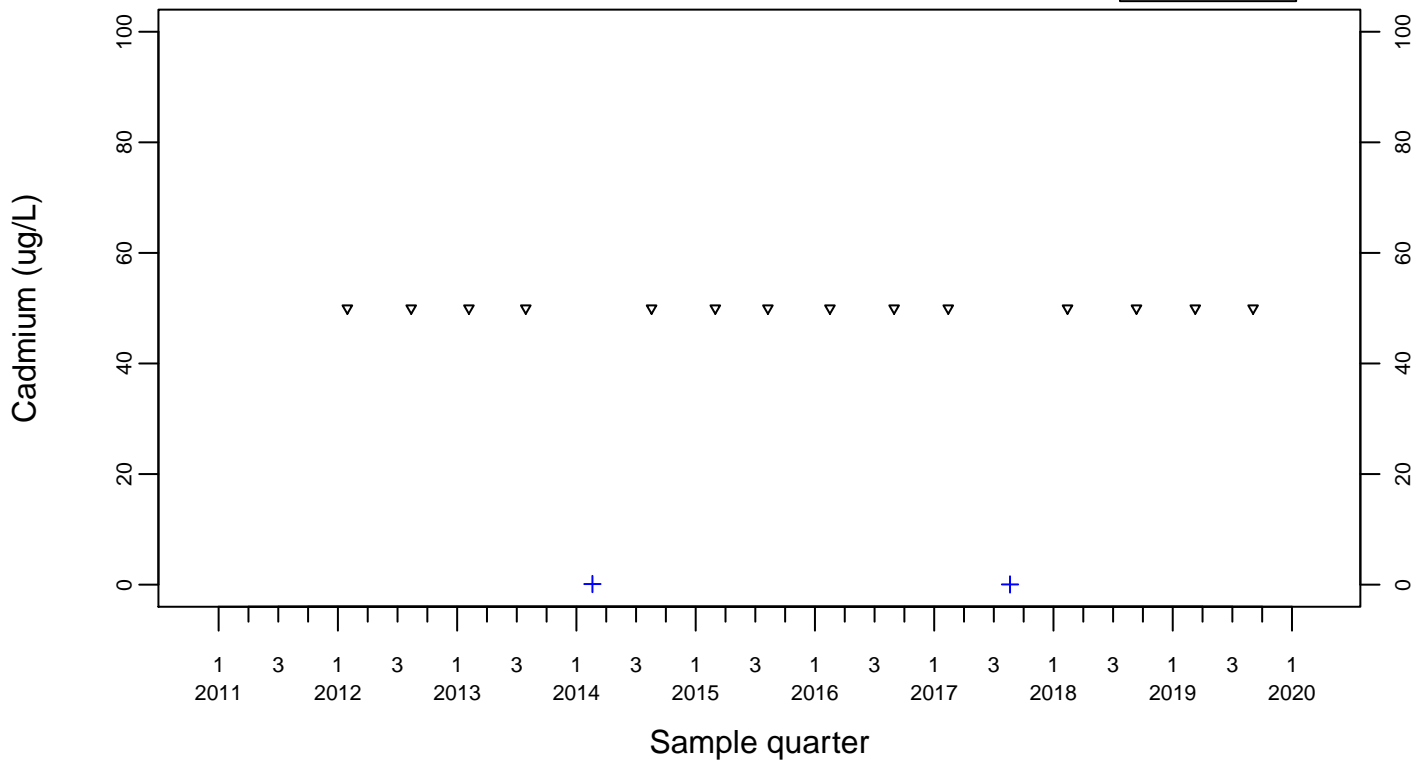
Downgradient Monitor Well W-25N-23



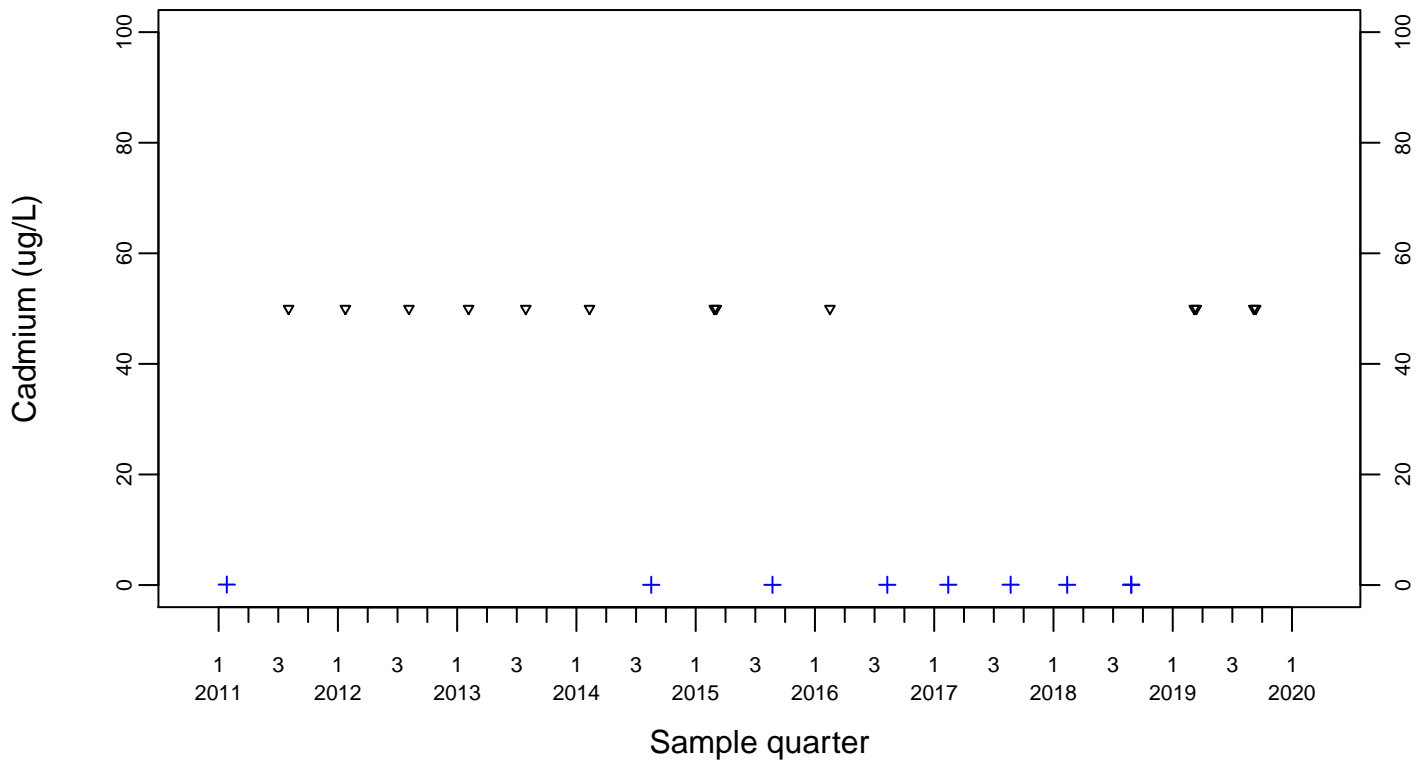
Sewage Ponds Ground Water
Cadmium (ug/L)

Downgradient Monitor Well W-25N-22

- ◆ Above RL
- ▽ Below RL
- + Estimated



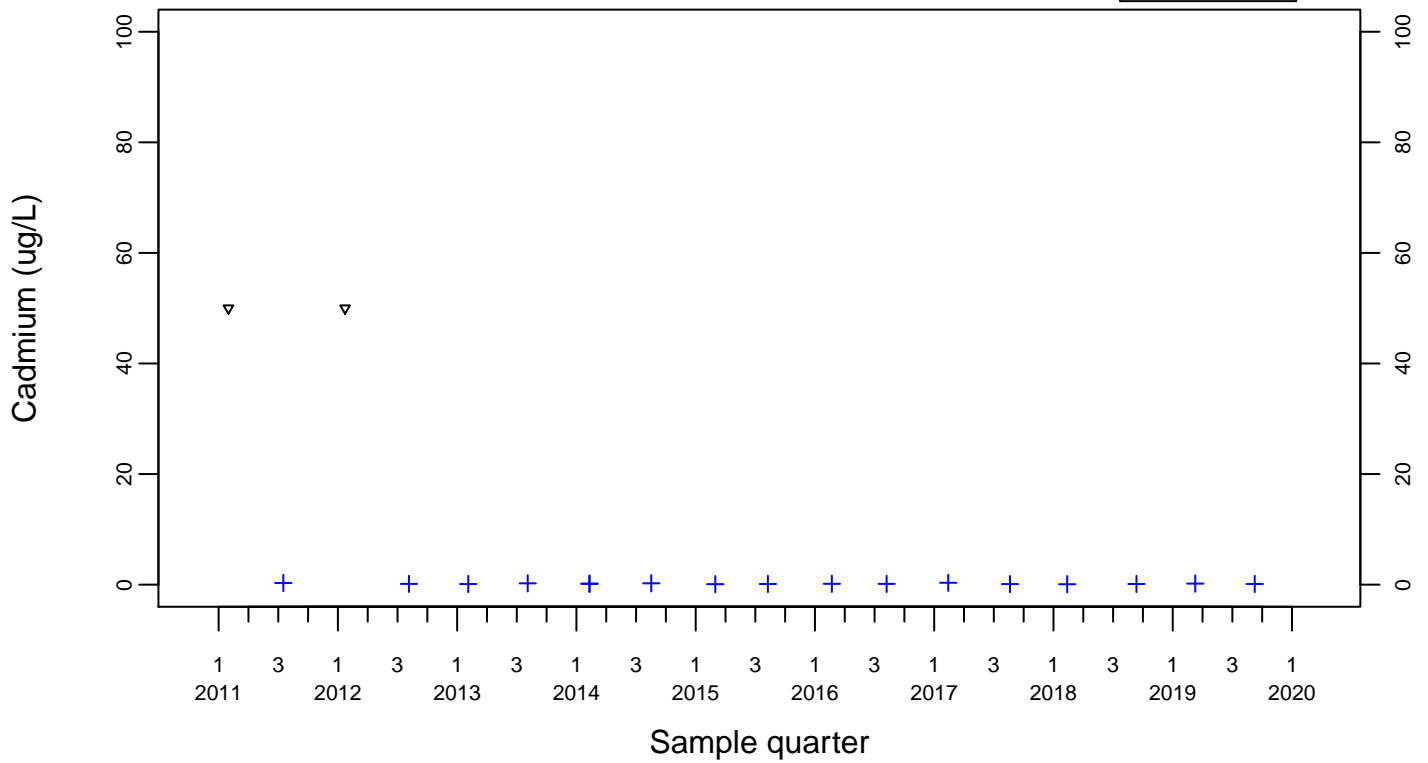
Downgradient Monitor Well W-26R-01



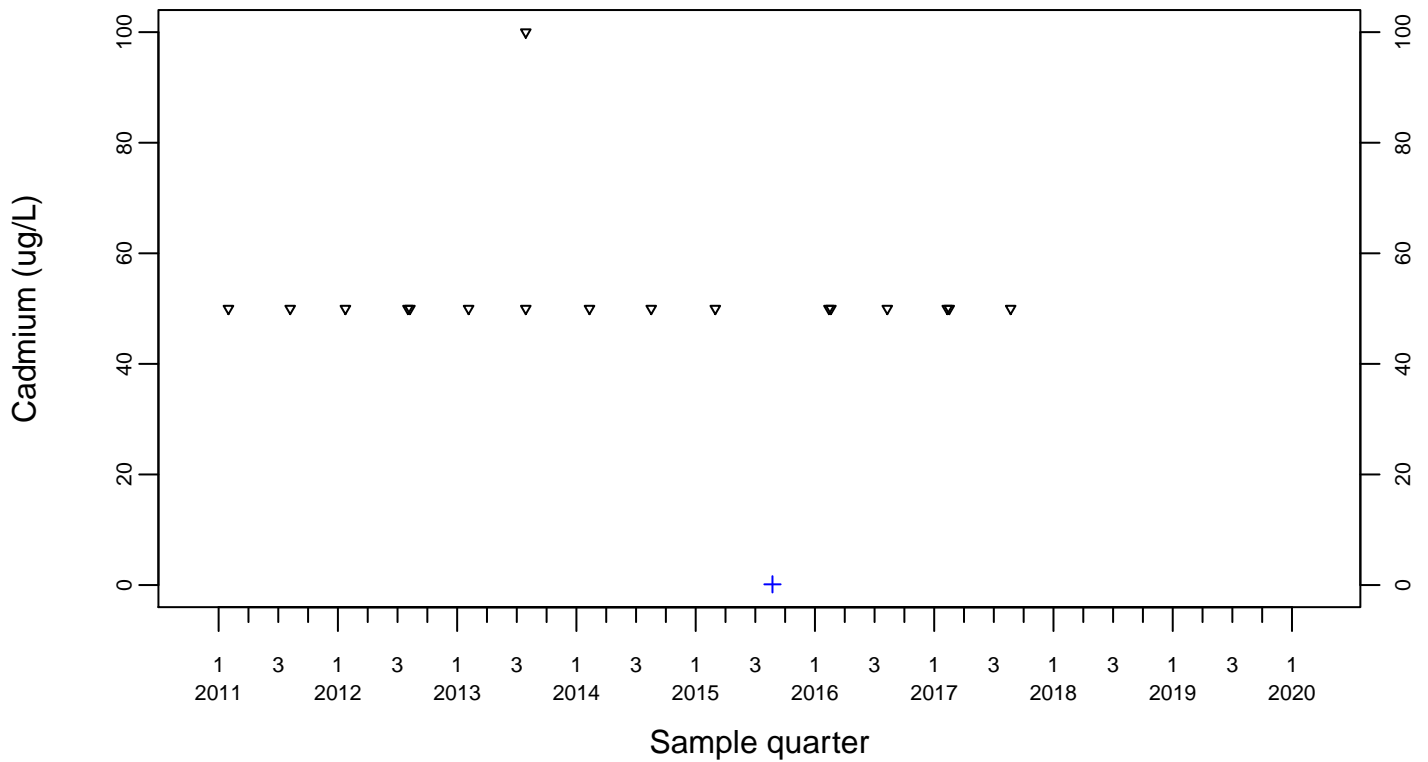
Sewage Ponds Ground Water
Cadmium (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated

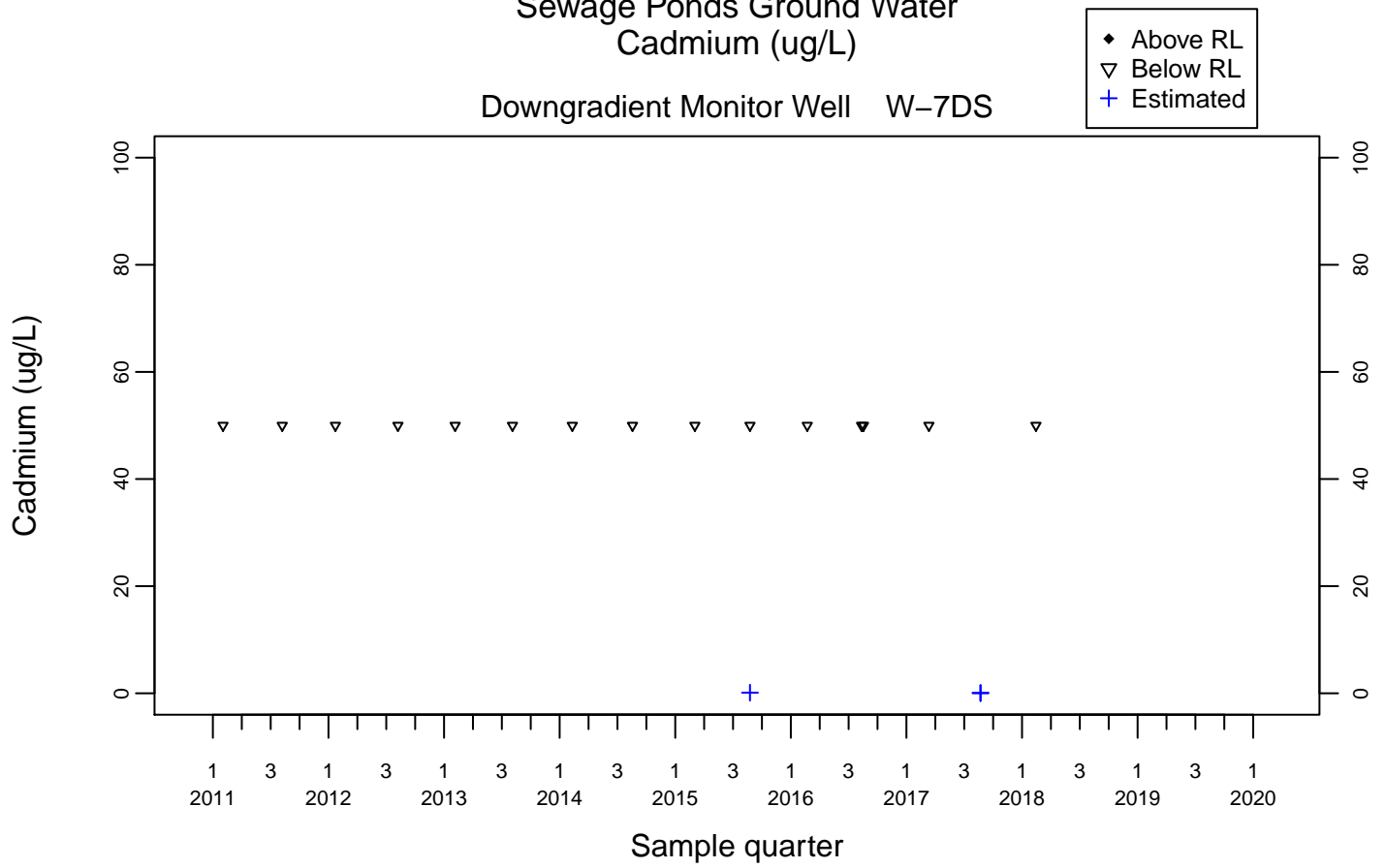


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Cadmium (ug/L)

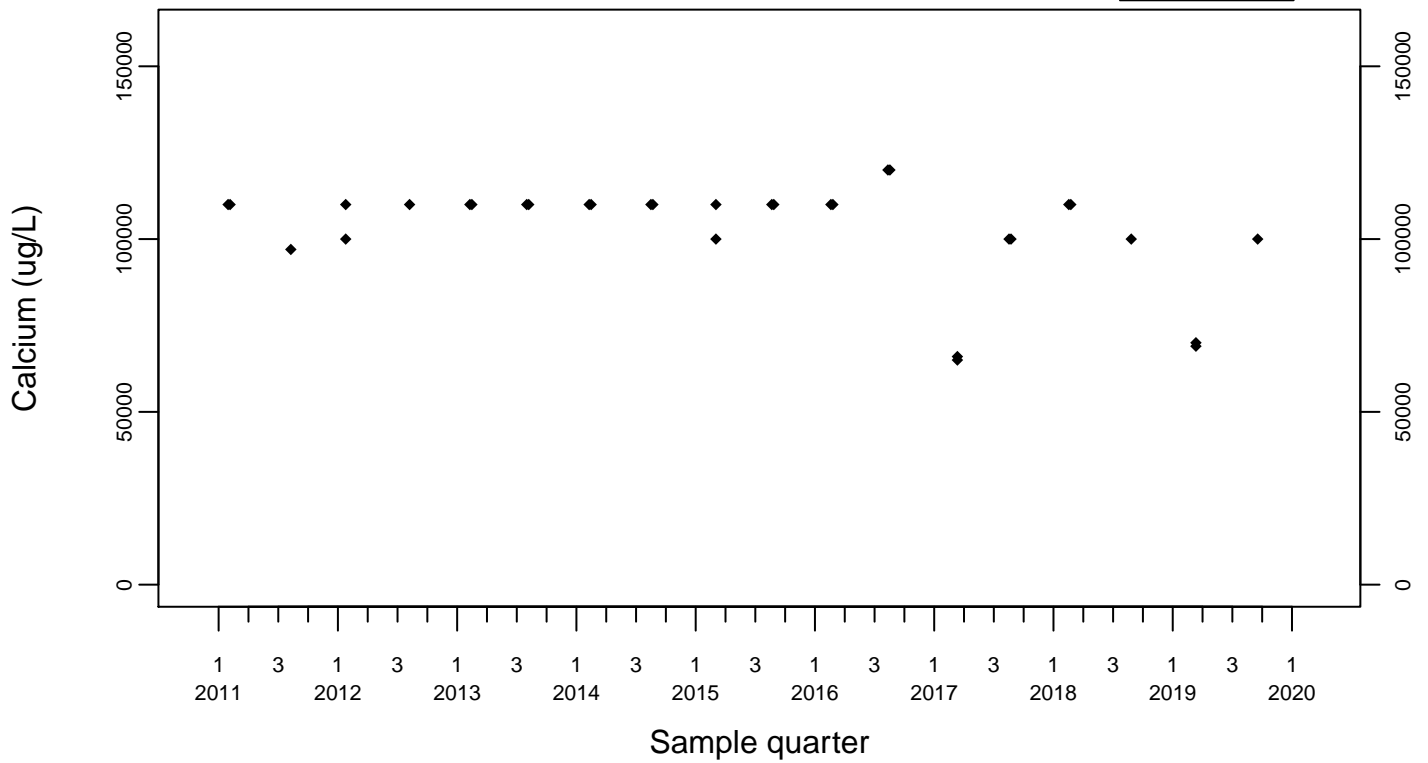
Downgradient Monitor Well W-7DS



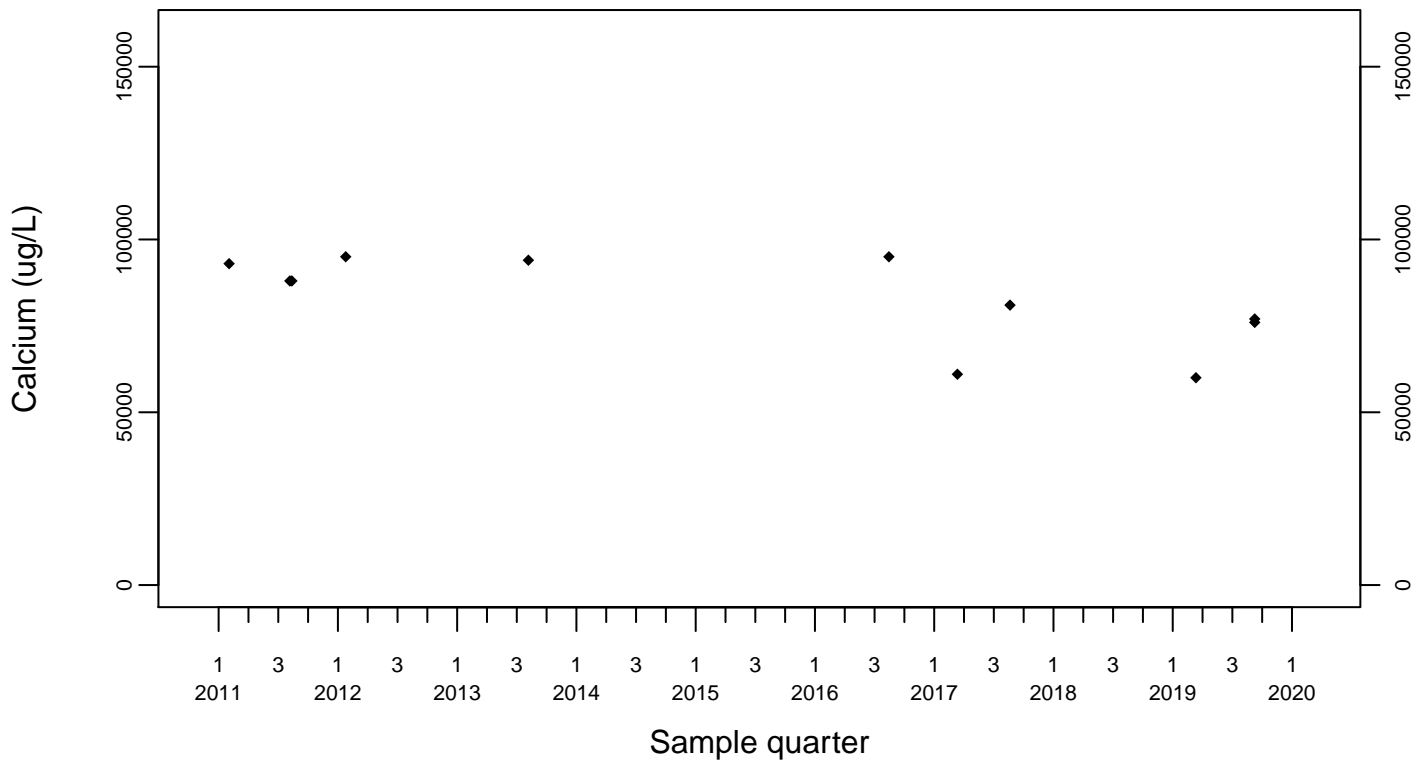
Sewage Ponds Ground Water Calcium (ug/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



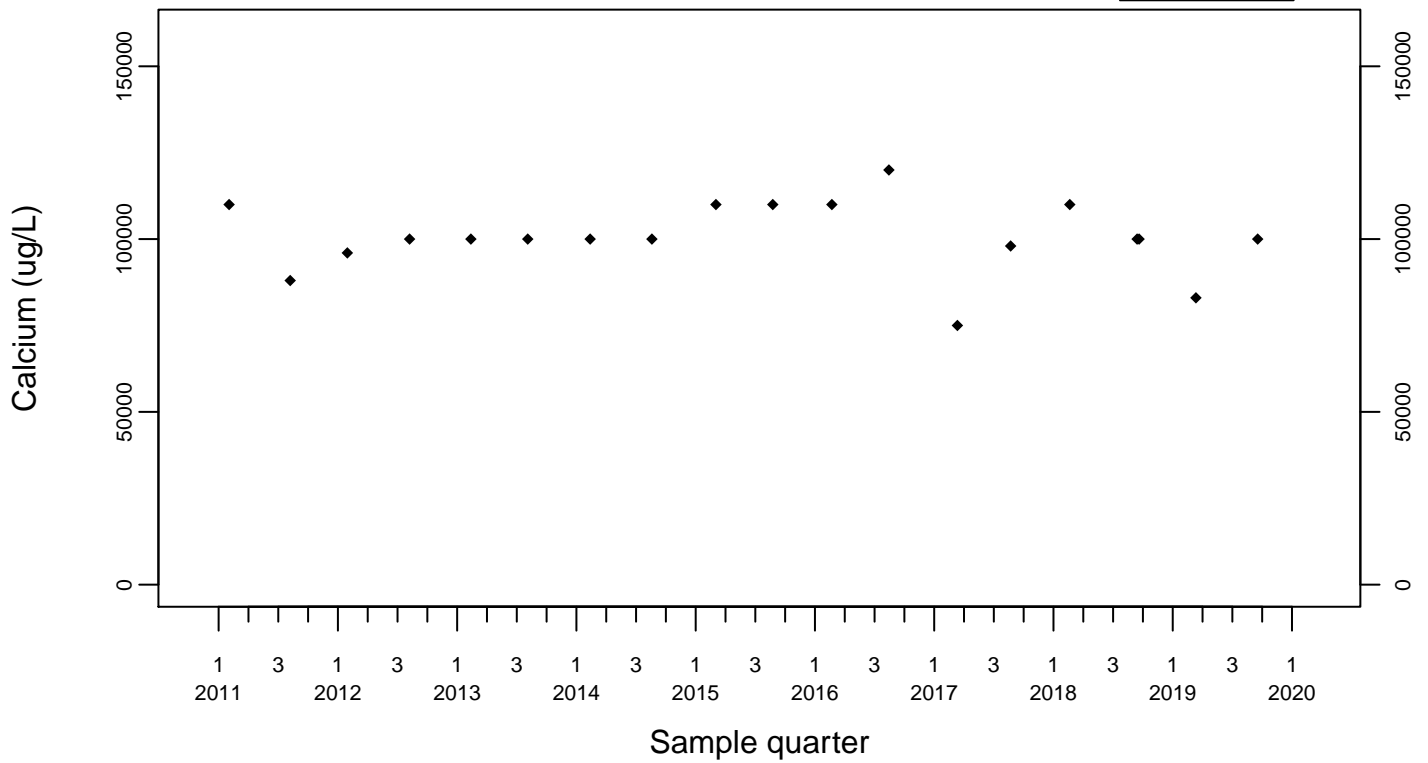
Upgradient Monitor Well W-7PS



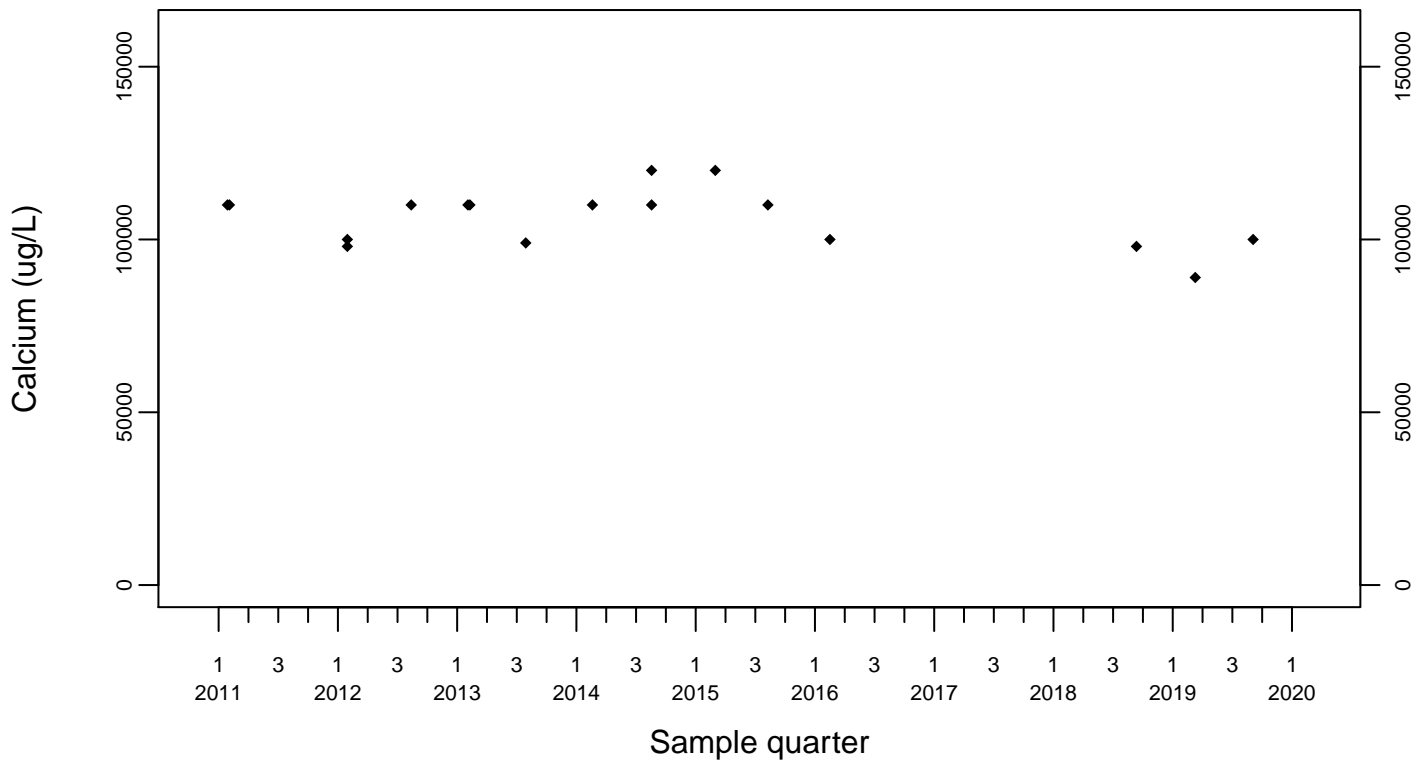
Sewage Ponds Ground Water
Calcium (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



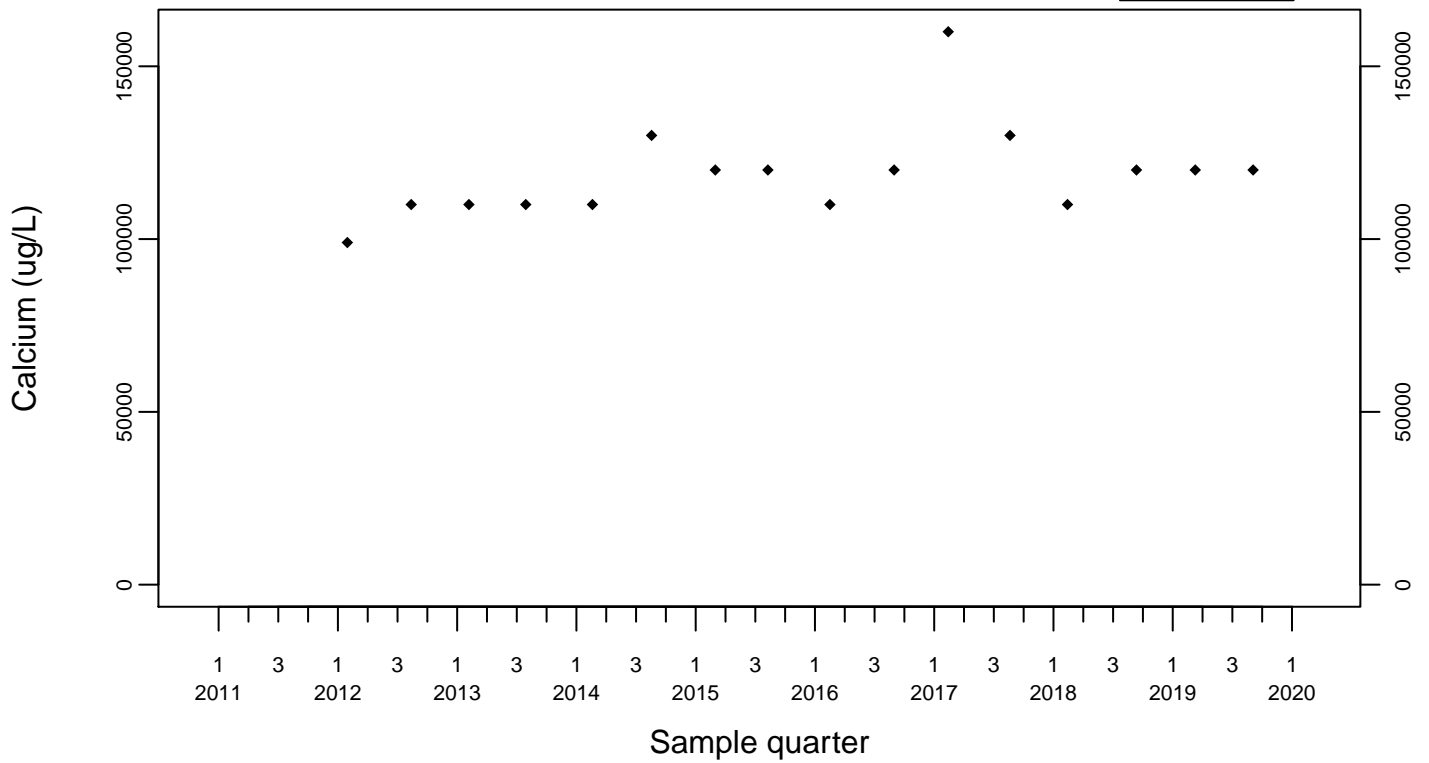
Downgradient Monitor Well W-25N-23



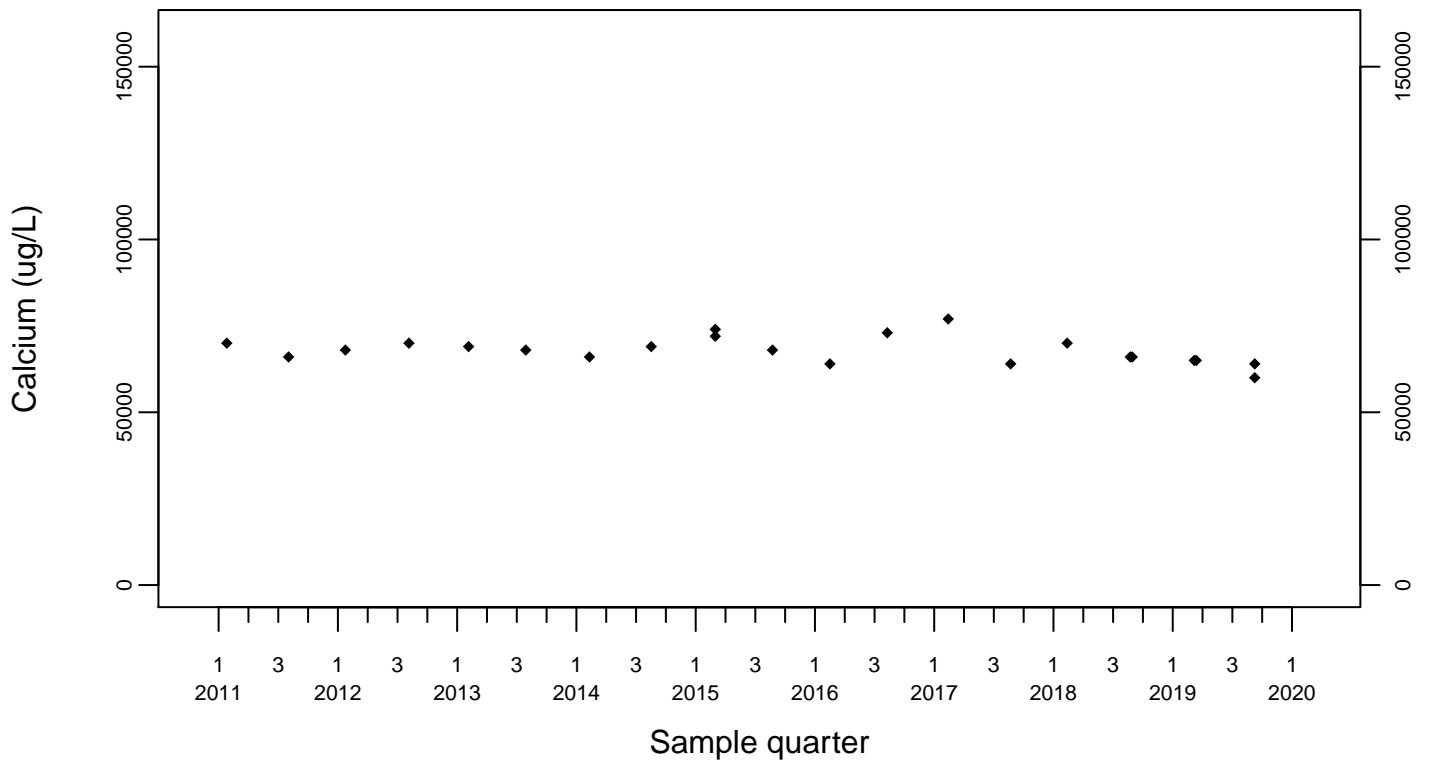
Sewage Ponds Ground Water Calcium (ug/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



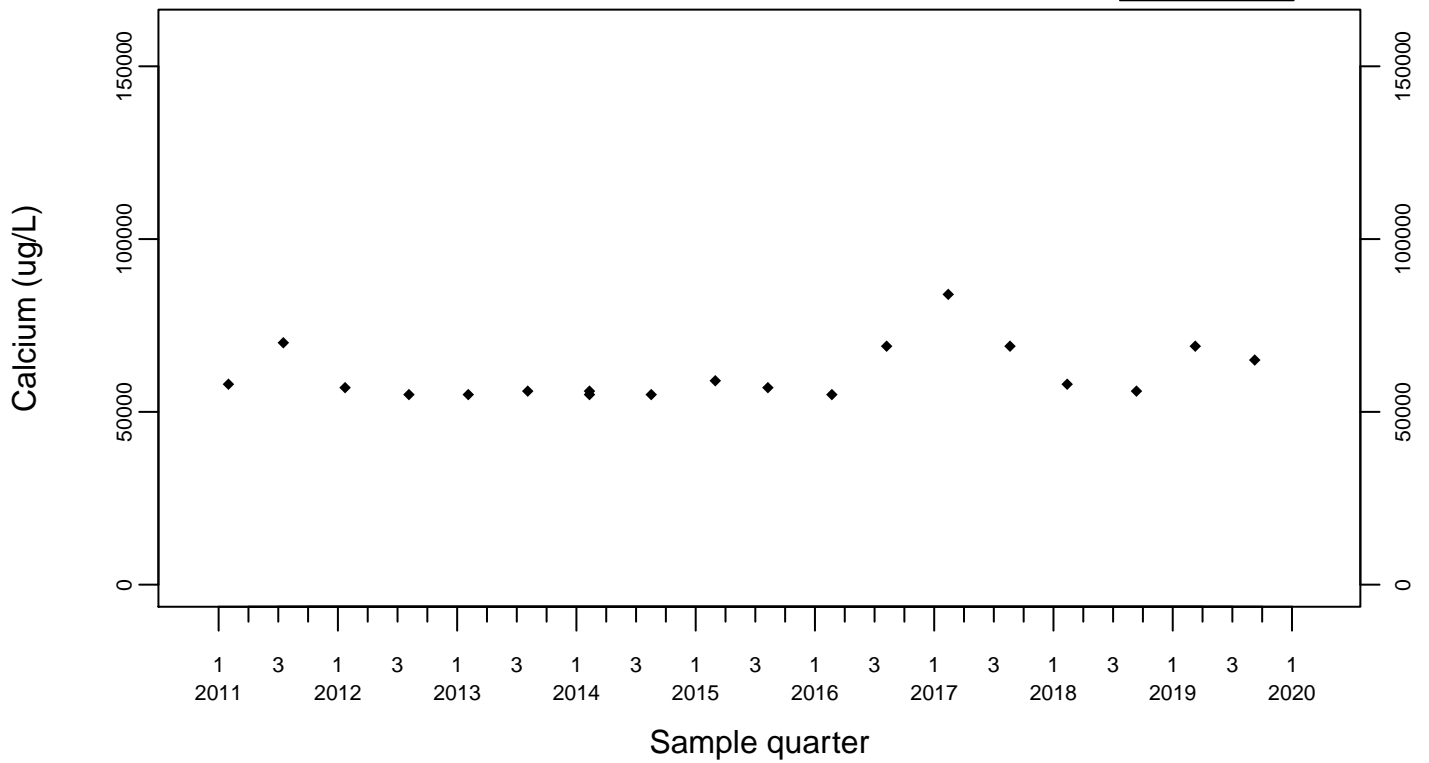
Downgradient Monitor Well W-26R-01



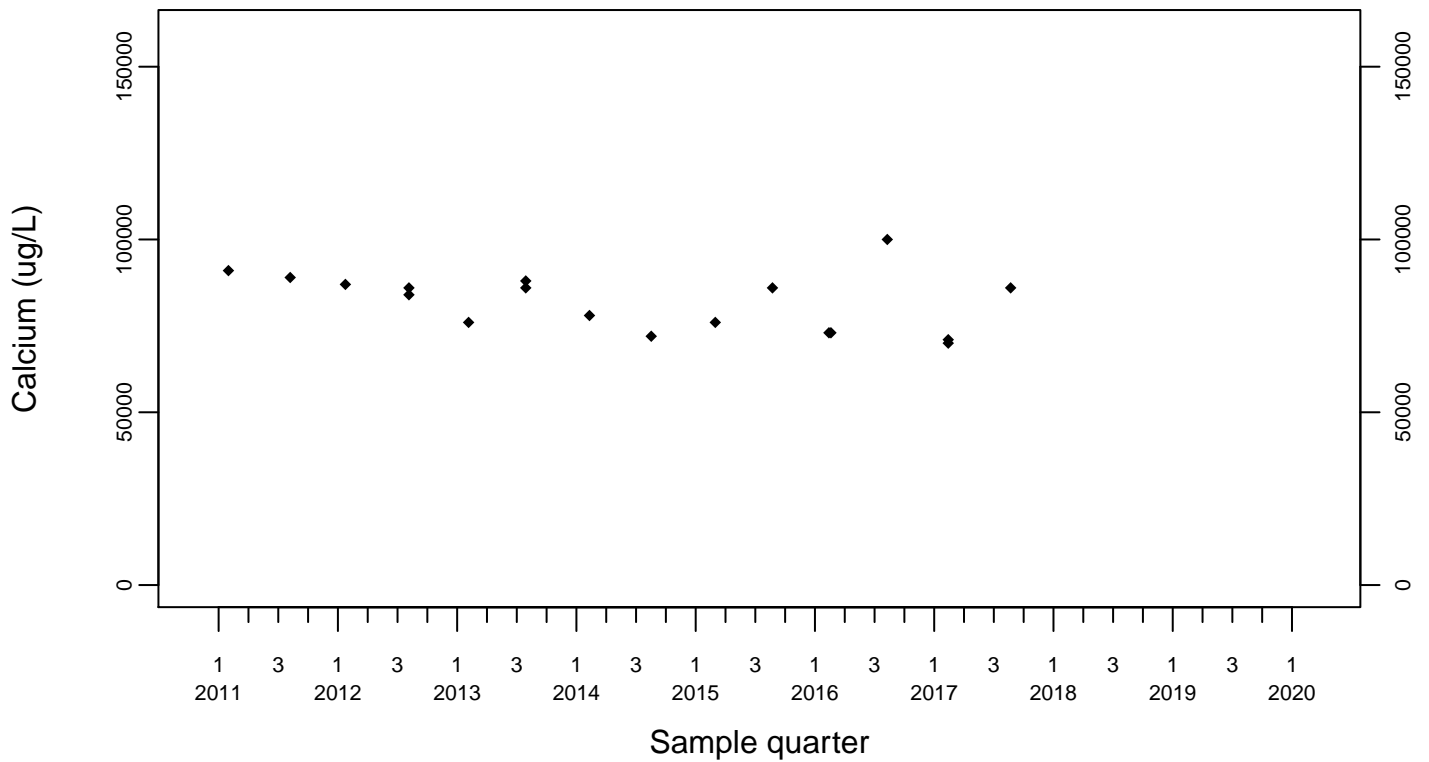
Sewage Ponds Ground Water
Calcium (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



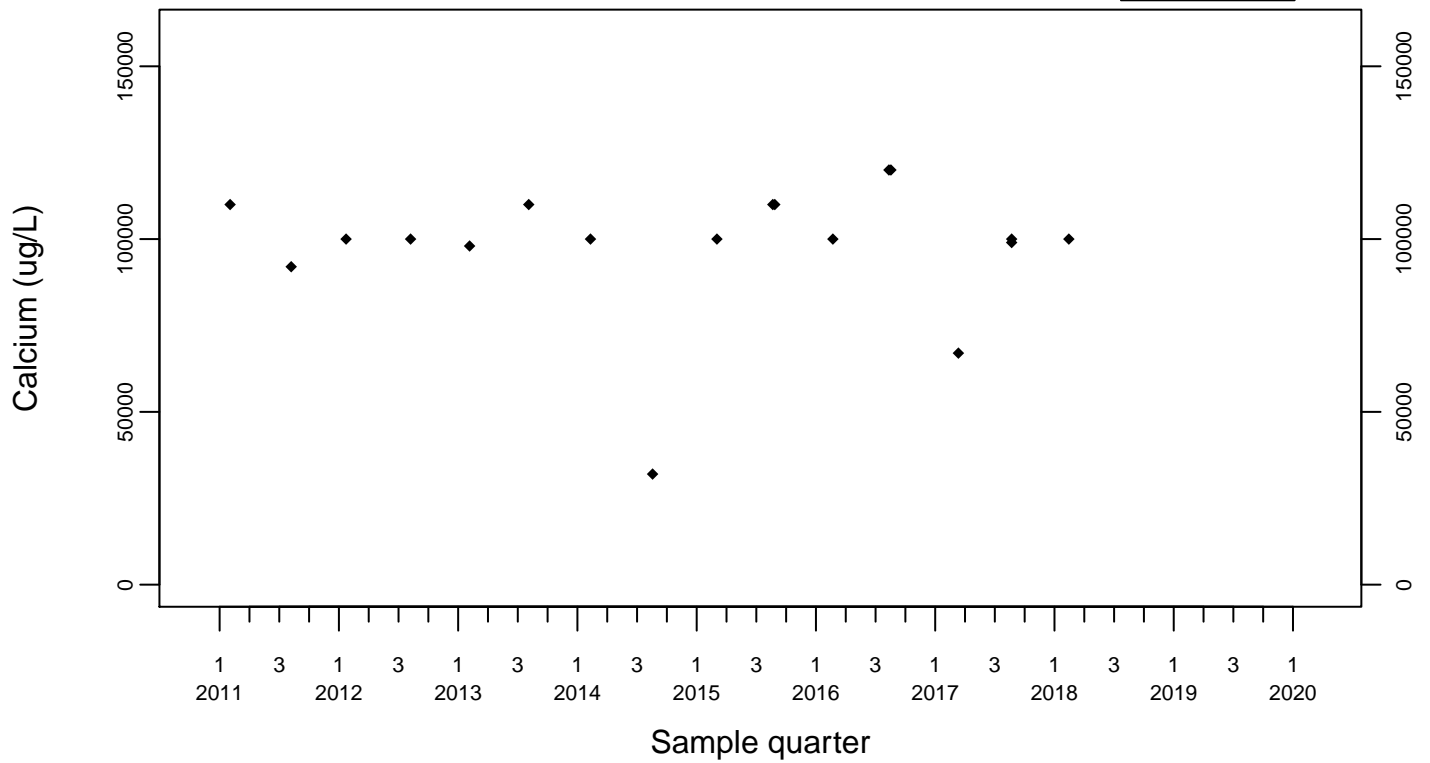
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Calcium (ug/L)

Downgradient Monitor Well W-7DS

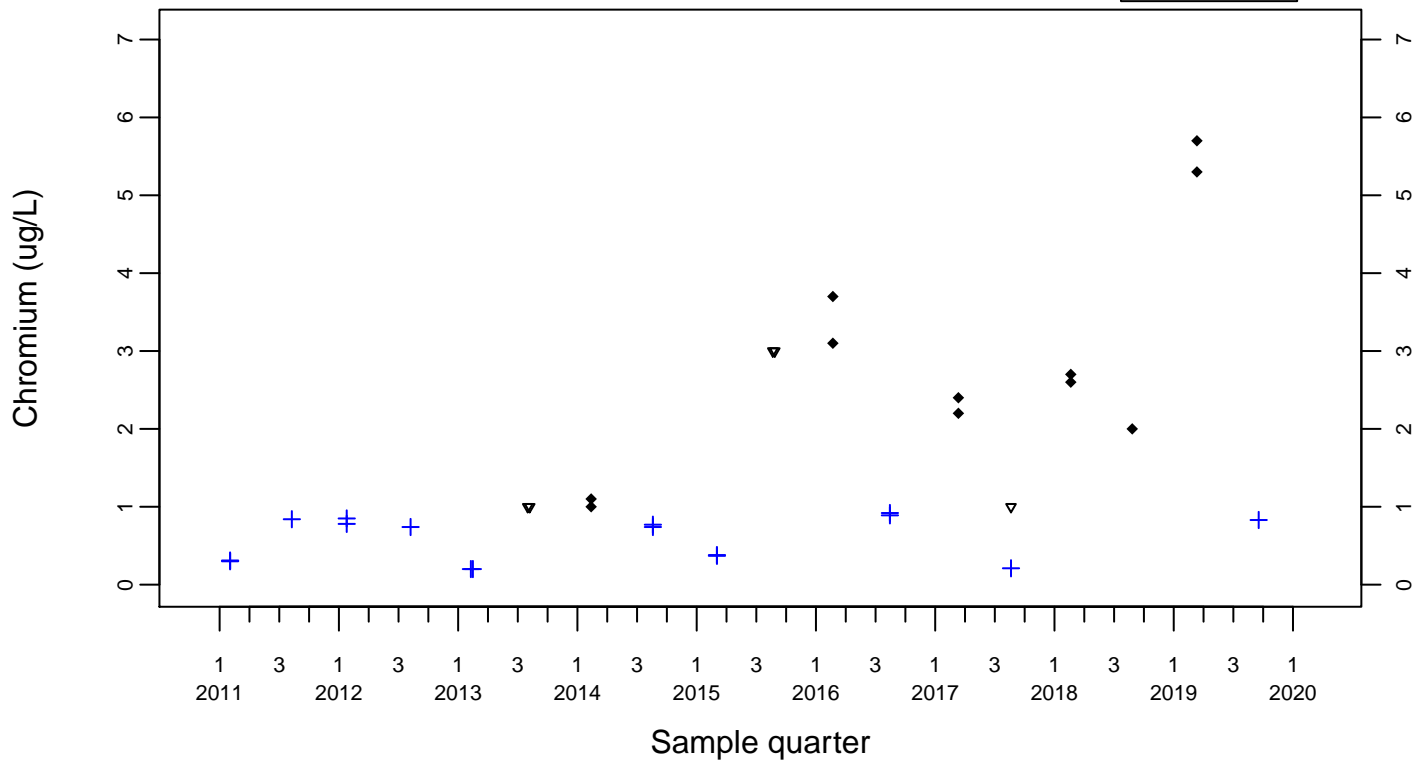
◆ Above RL
▽ Below RL



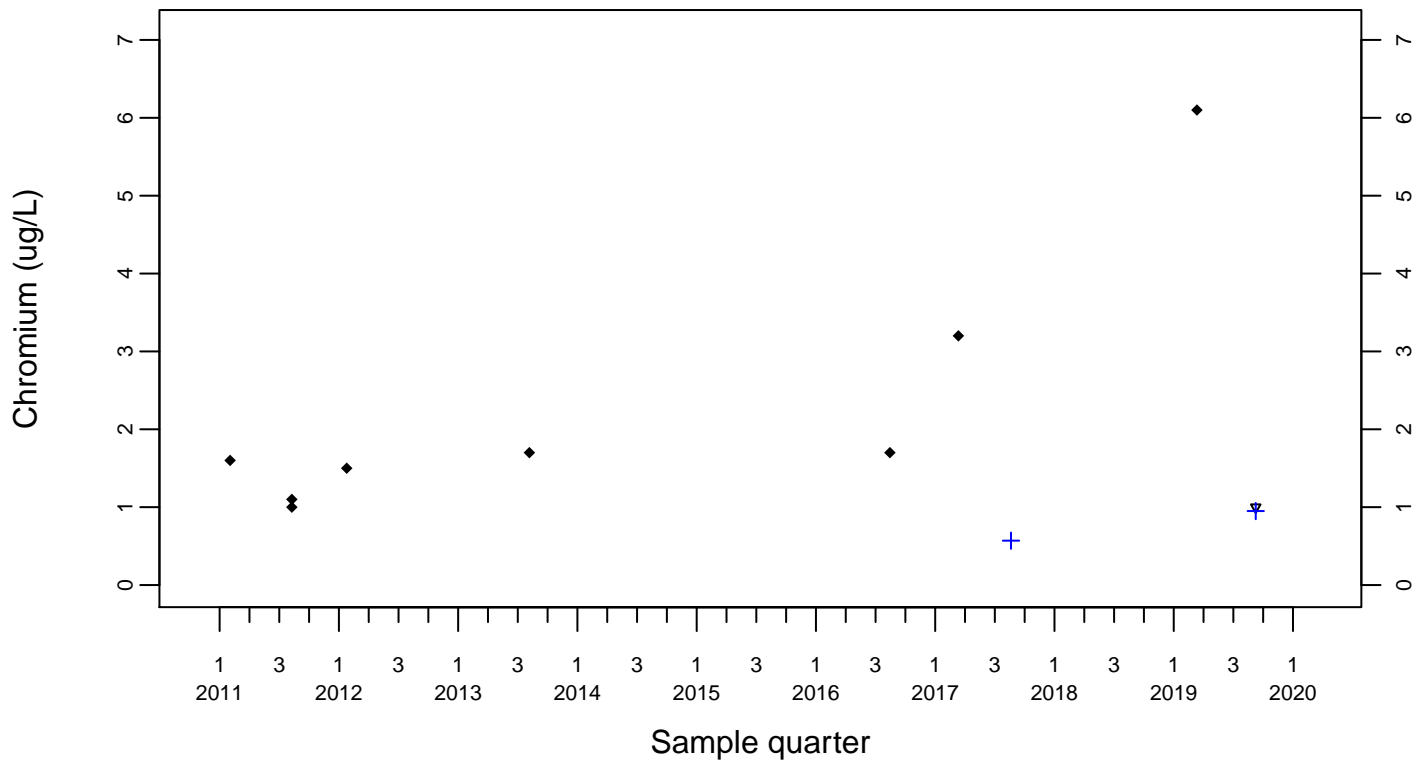
Sewage Ponds Ground Water Chromium (ug/L)

Upgradient Monitor Well W-7ES

- ◆ Above RL
- ▽ Below RL
- + Estimated

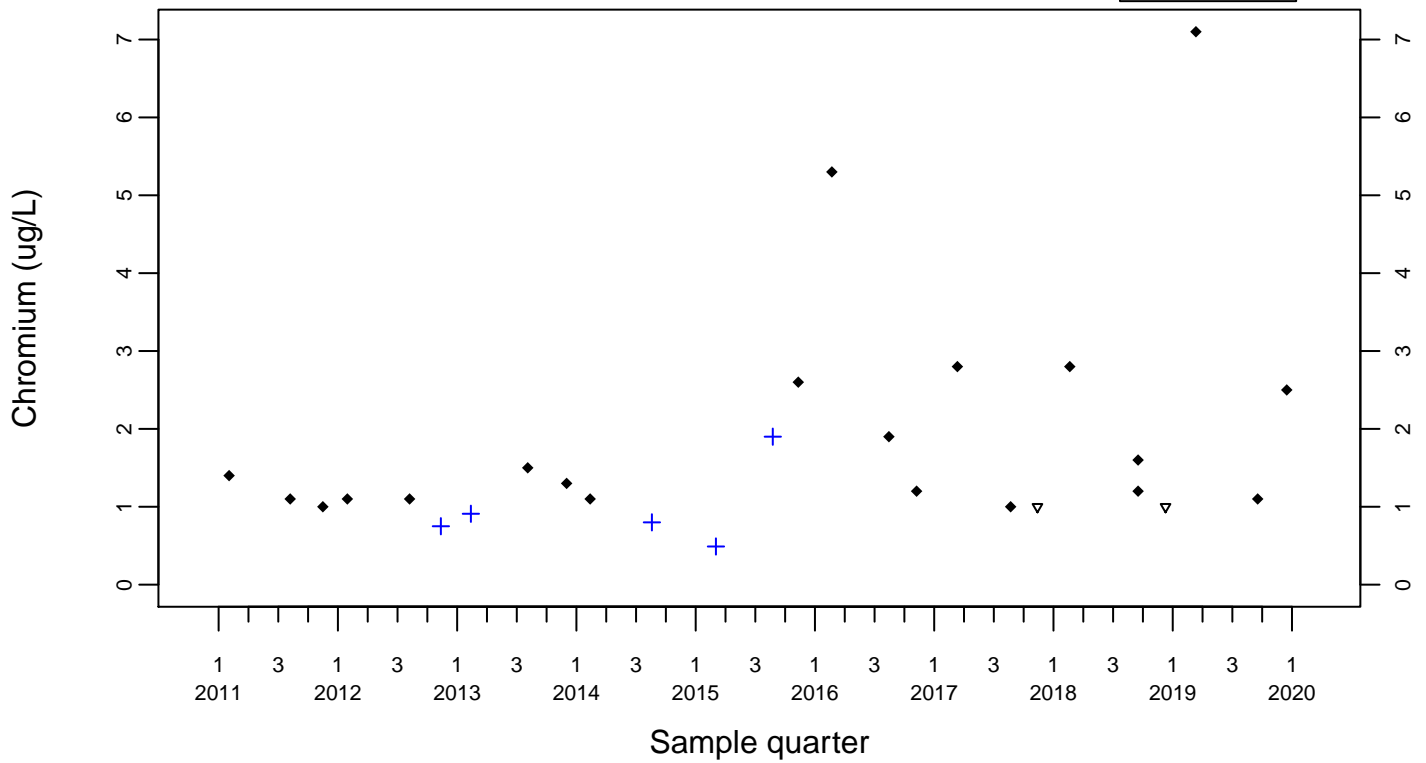
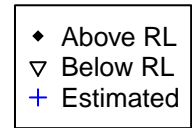


Upgradient Monitor Well W-7PS

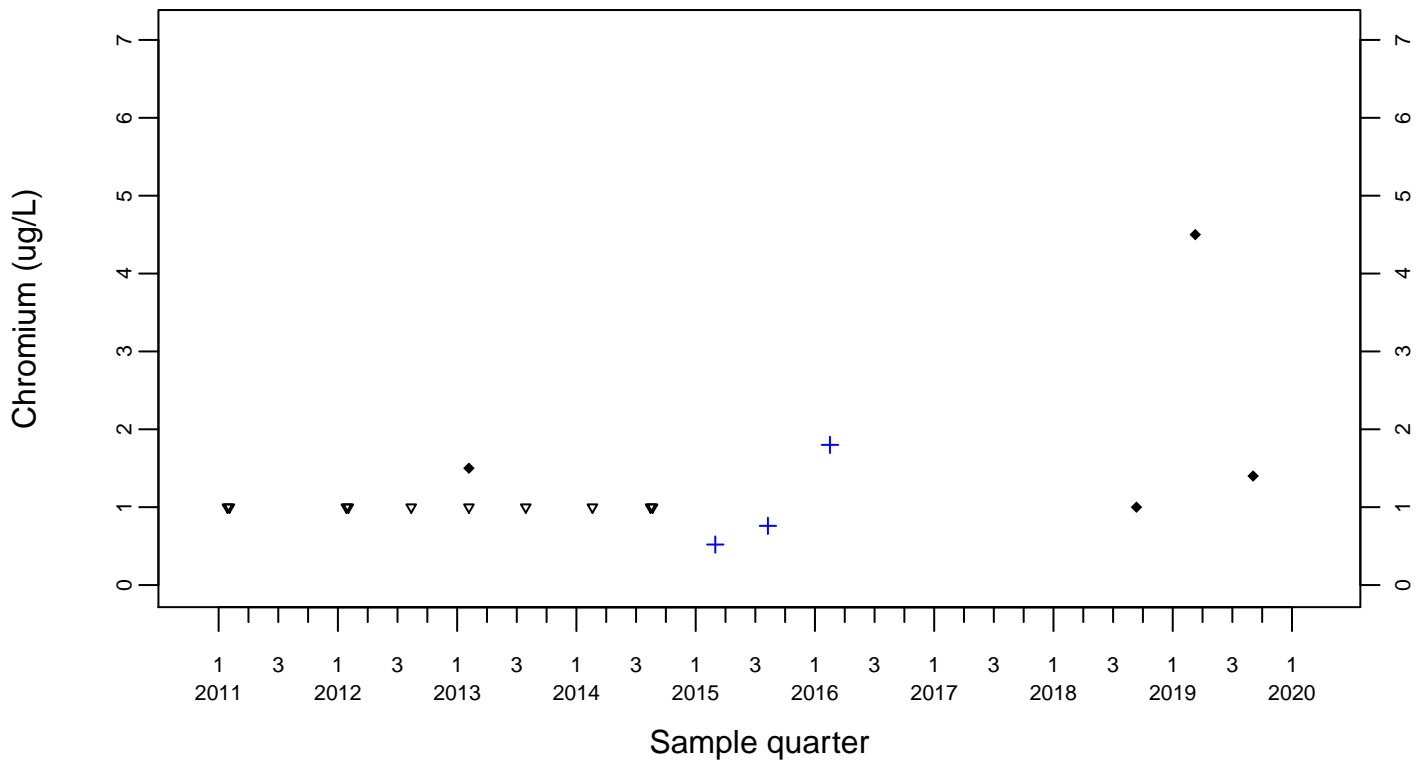


Sewage Ponds Ground Water
Chromium (ug/L)

Crossgradient Monitor Well W-35A-04



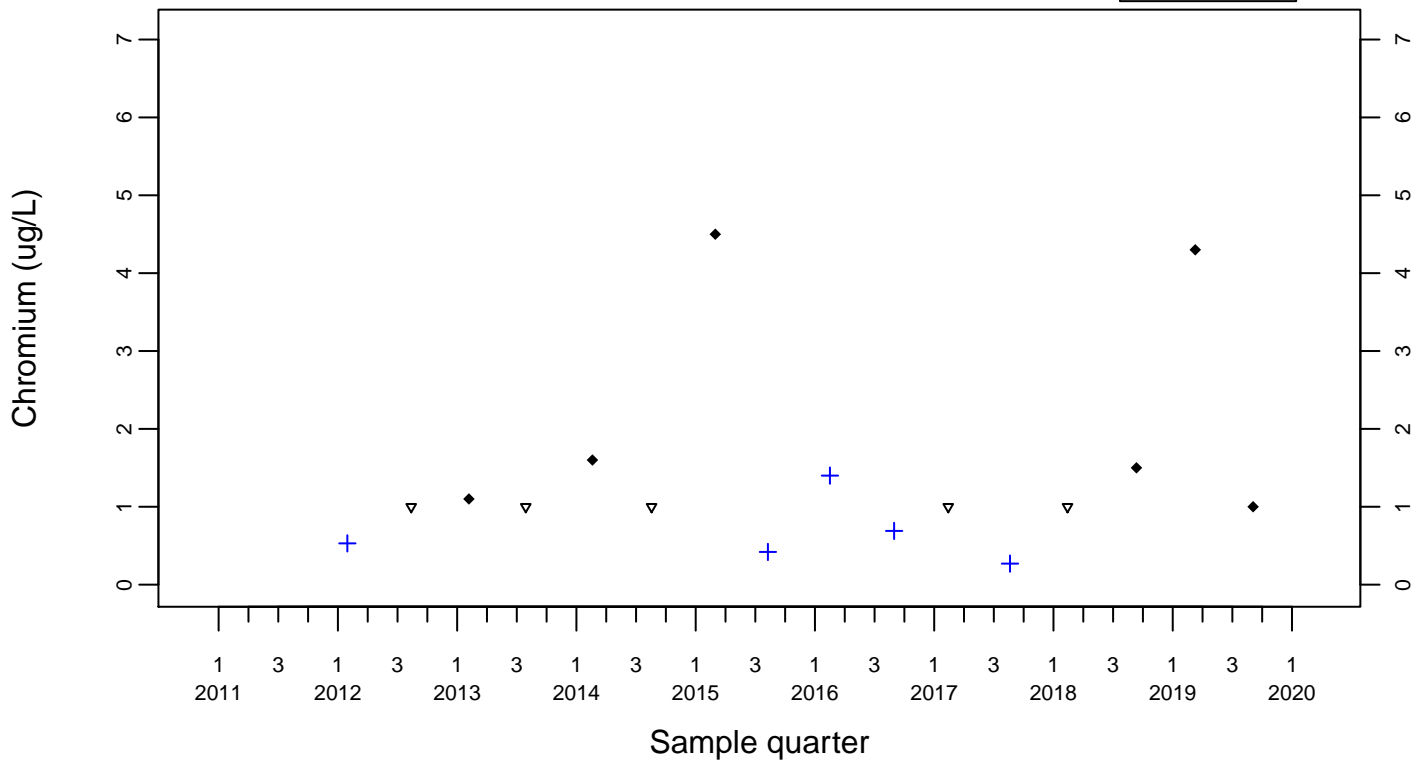
Downgradient Monitor Well W-25N-23



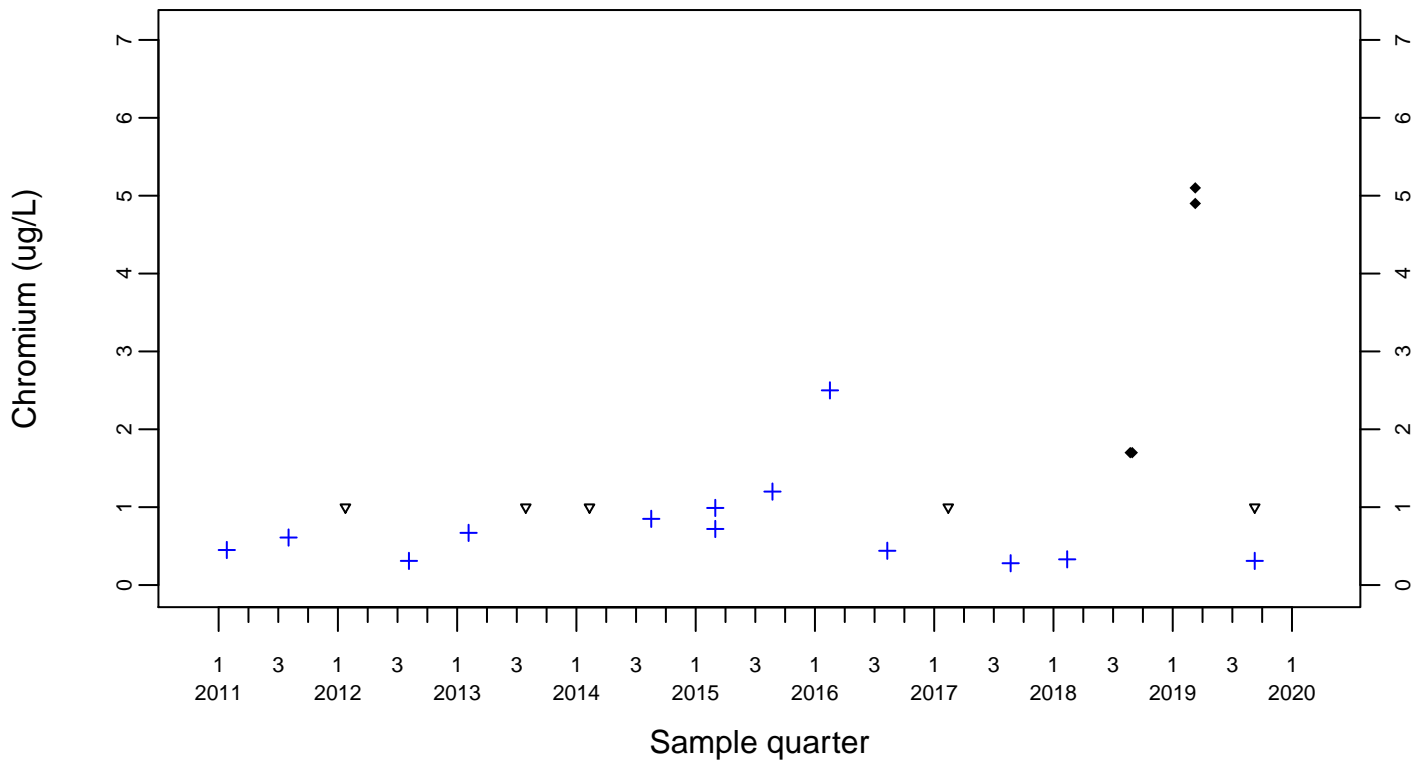
Sewage Ponds Ground Water
Chromium (ug/L)

Downgradient Monitor Well W-25N-22

- ◆ Above RL
- ▽ Below RL
- + Estimated



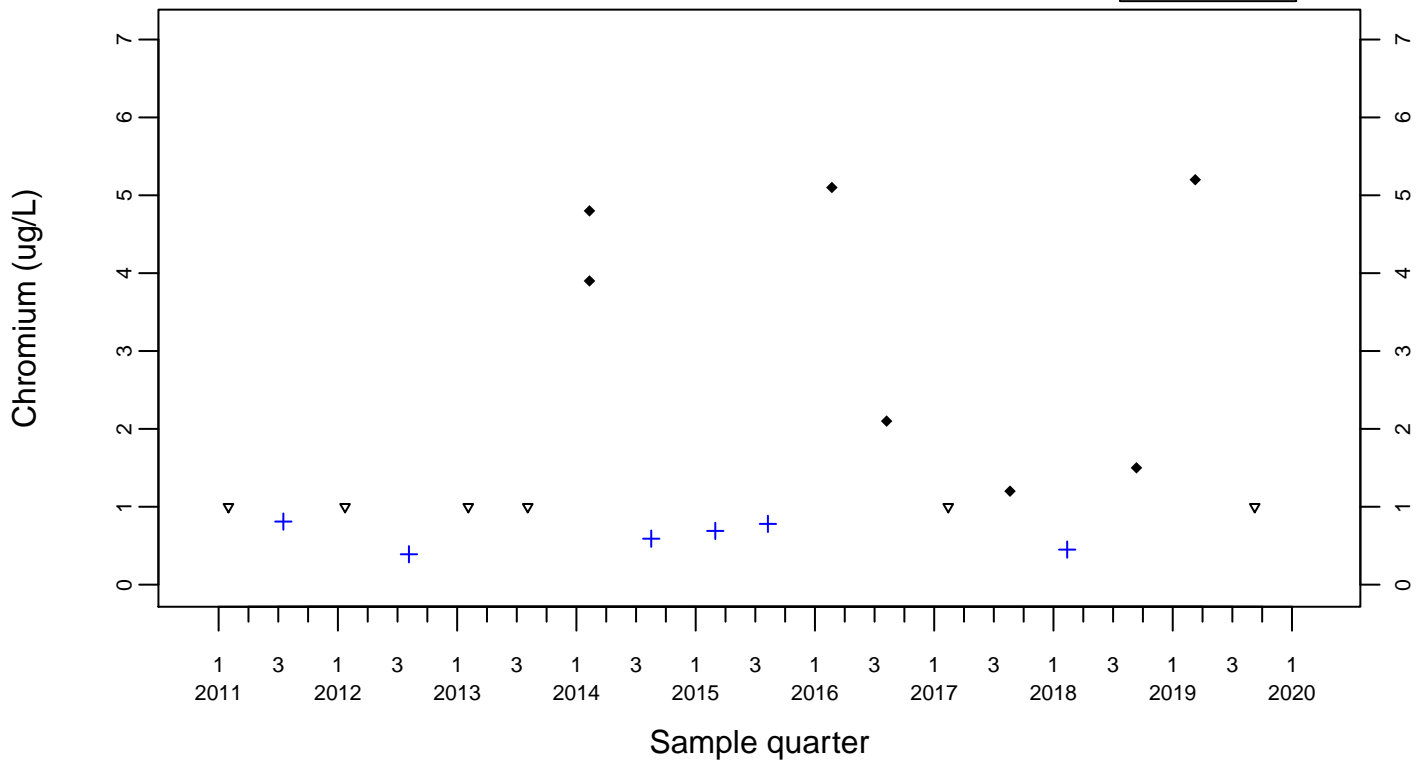
Downgradient Monitor Well W-26R-01



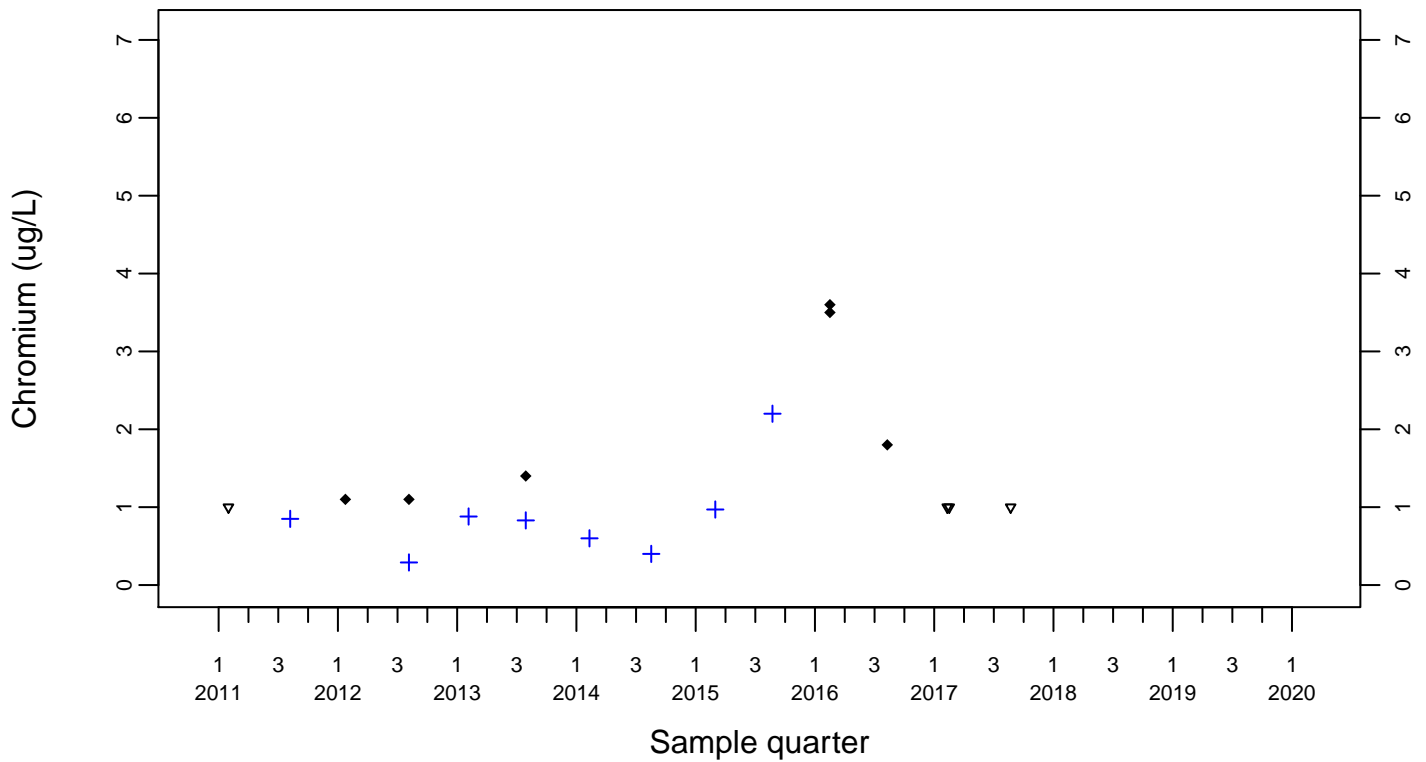
Sewage Ponds Ground Water
Chromium (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated

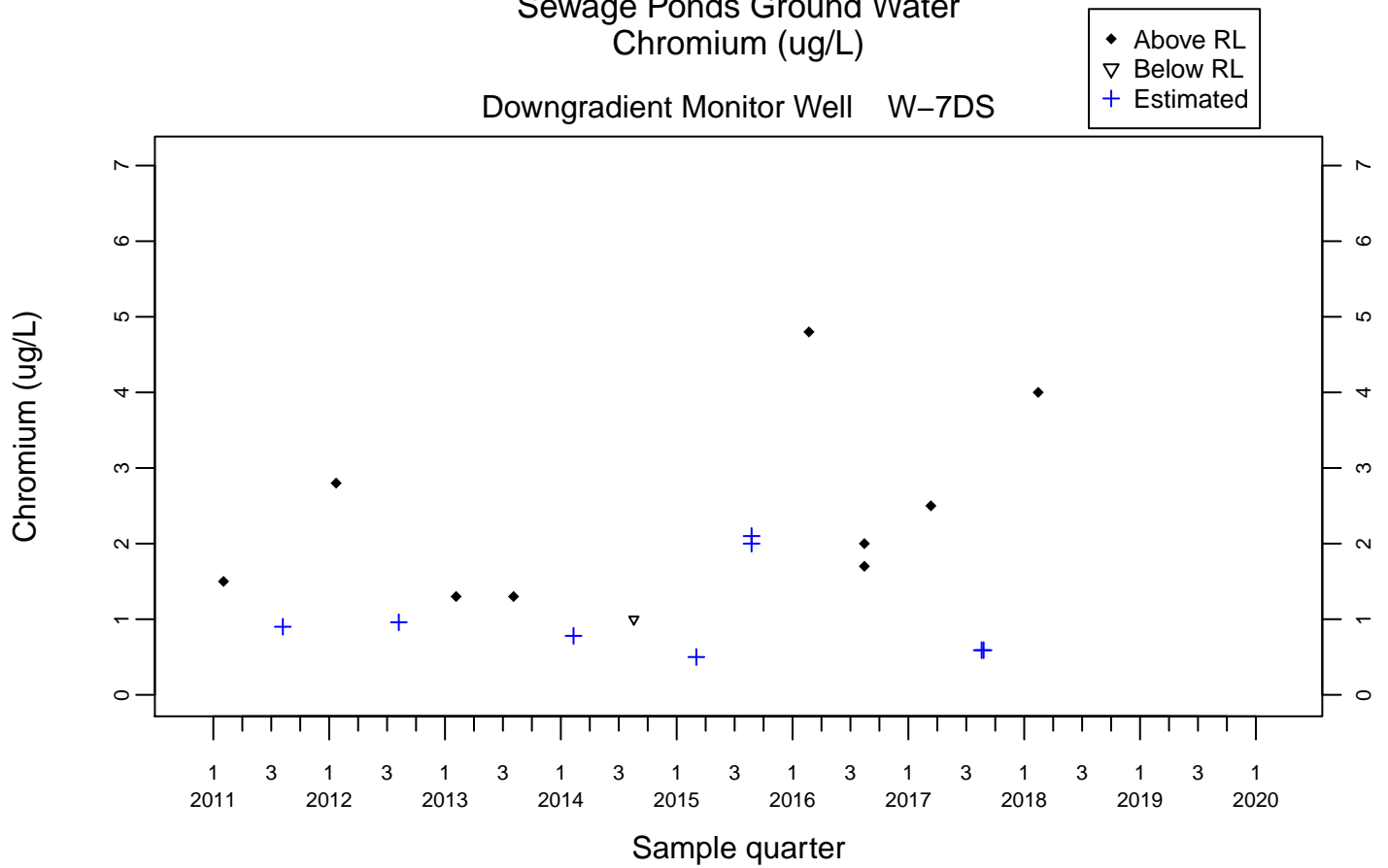


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Chromium (ug/L)

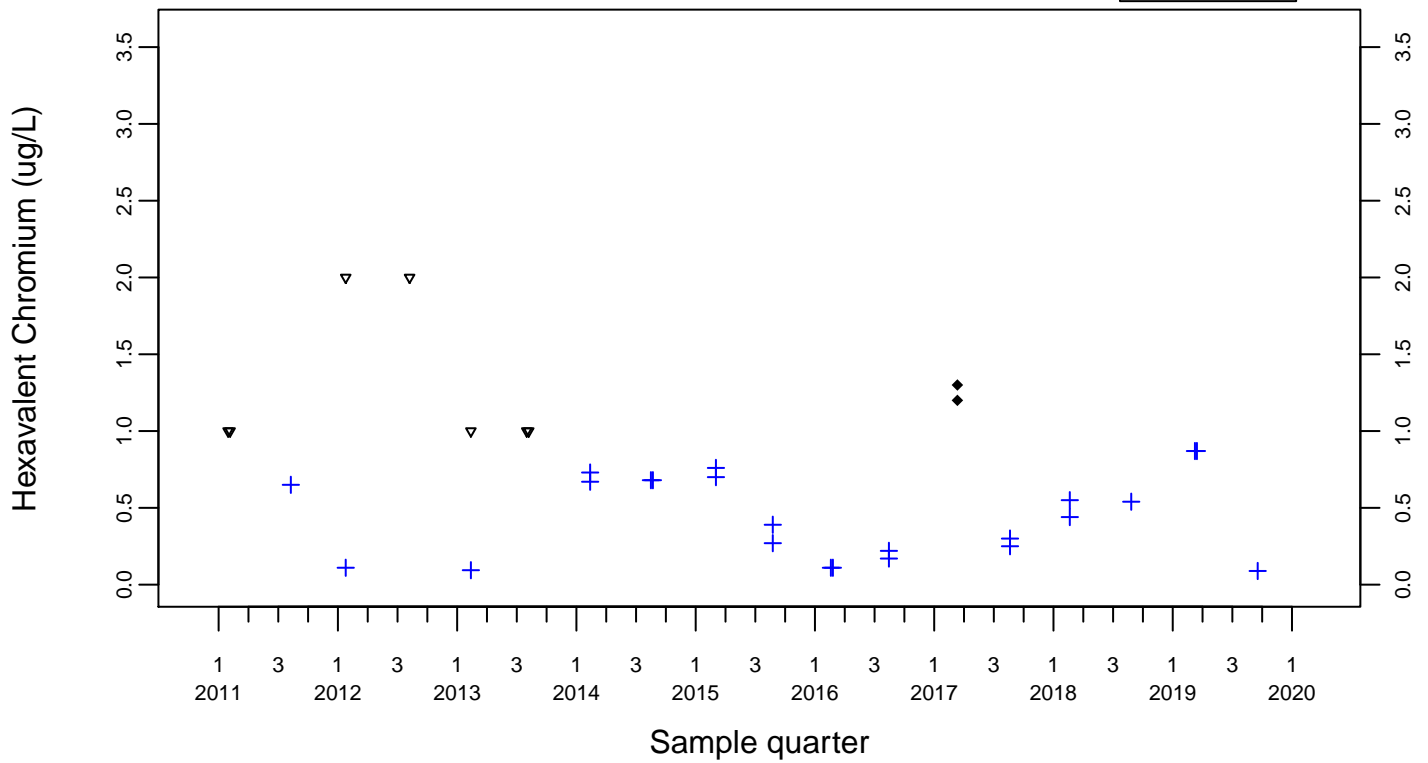
Downgradient Monitor Well W-7DS



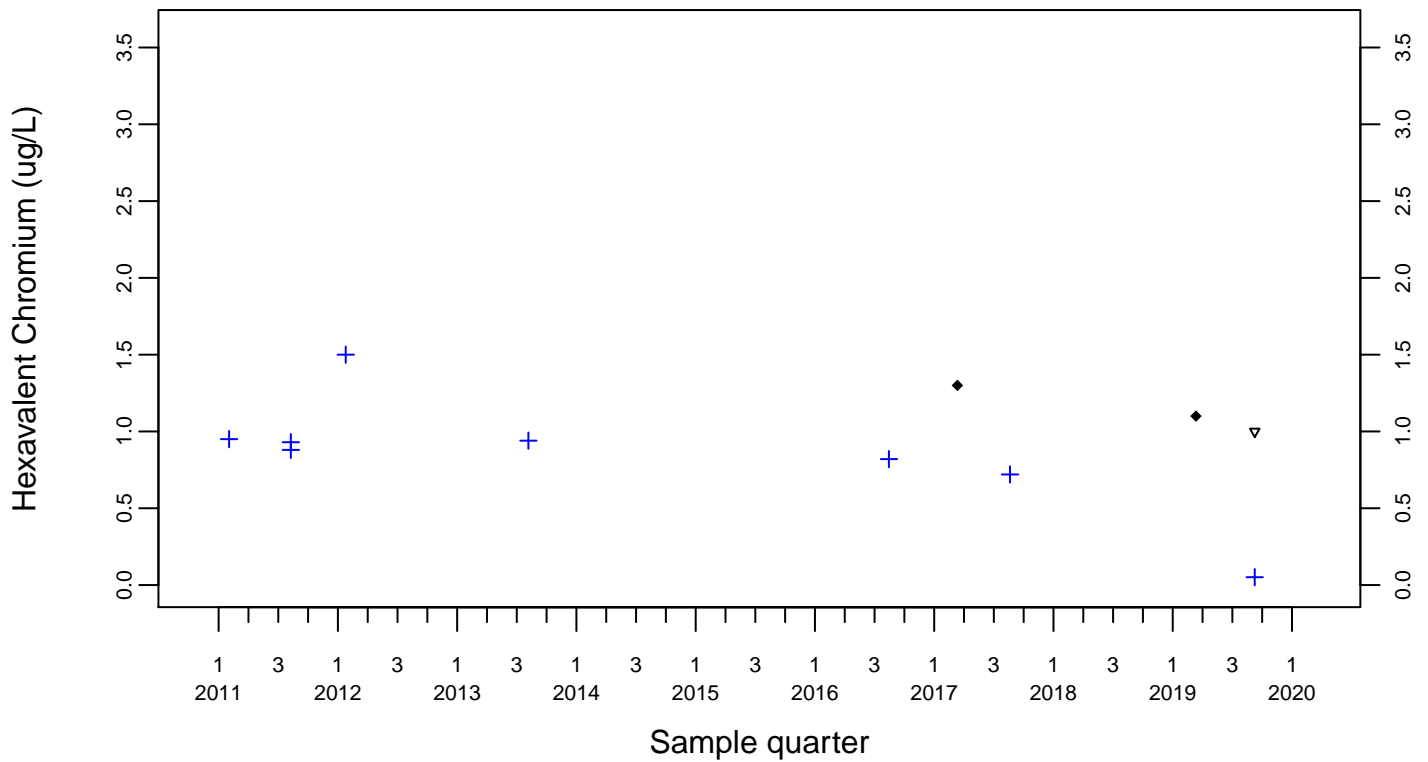
Sewage Ponds Ground Water Hexavalent Chromium (ug/L)

Upgradient Monitor Well W-7ES

- ◆ Above RL
- ▽ Below RL
- + Estimated



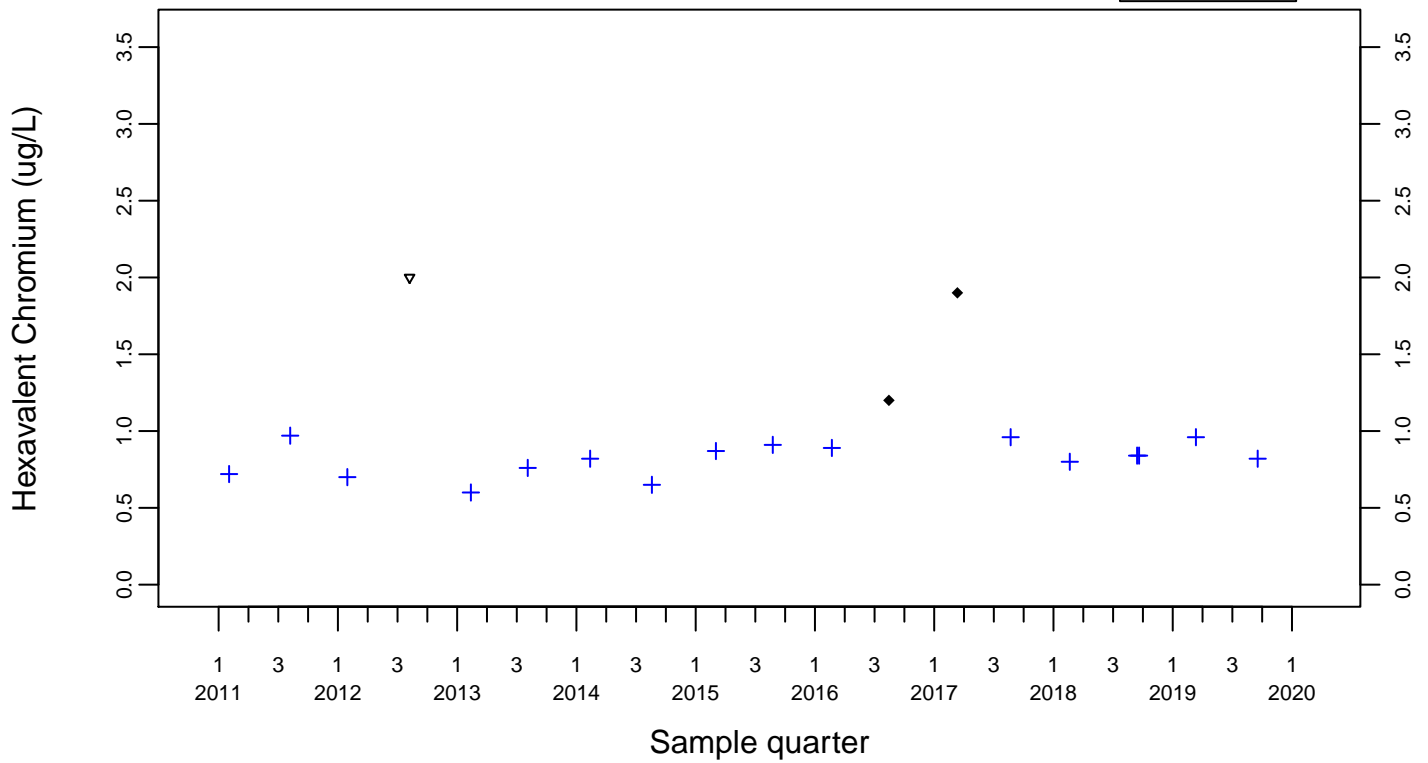
Upgradient Monitor Well W-7PS



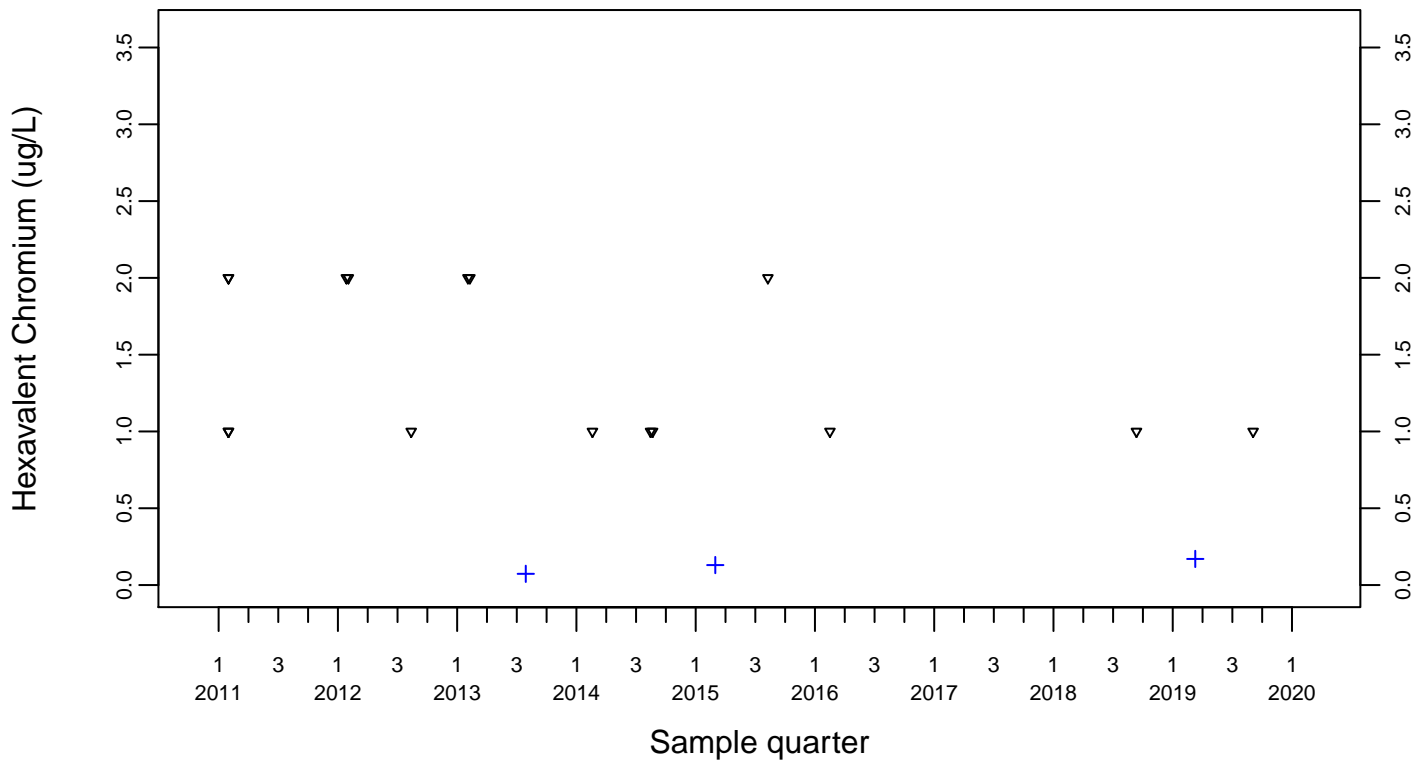
Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)

Crossgradient Monitor Well W-35A-04

- ◆ Above RL
- ▽ Below RL
- + Estimated

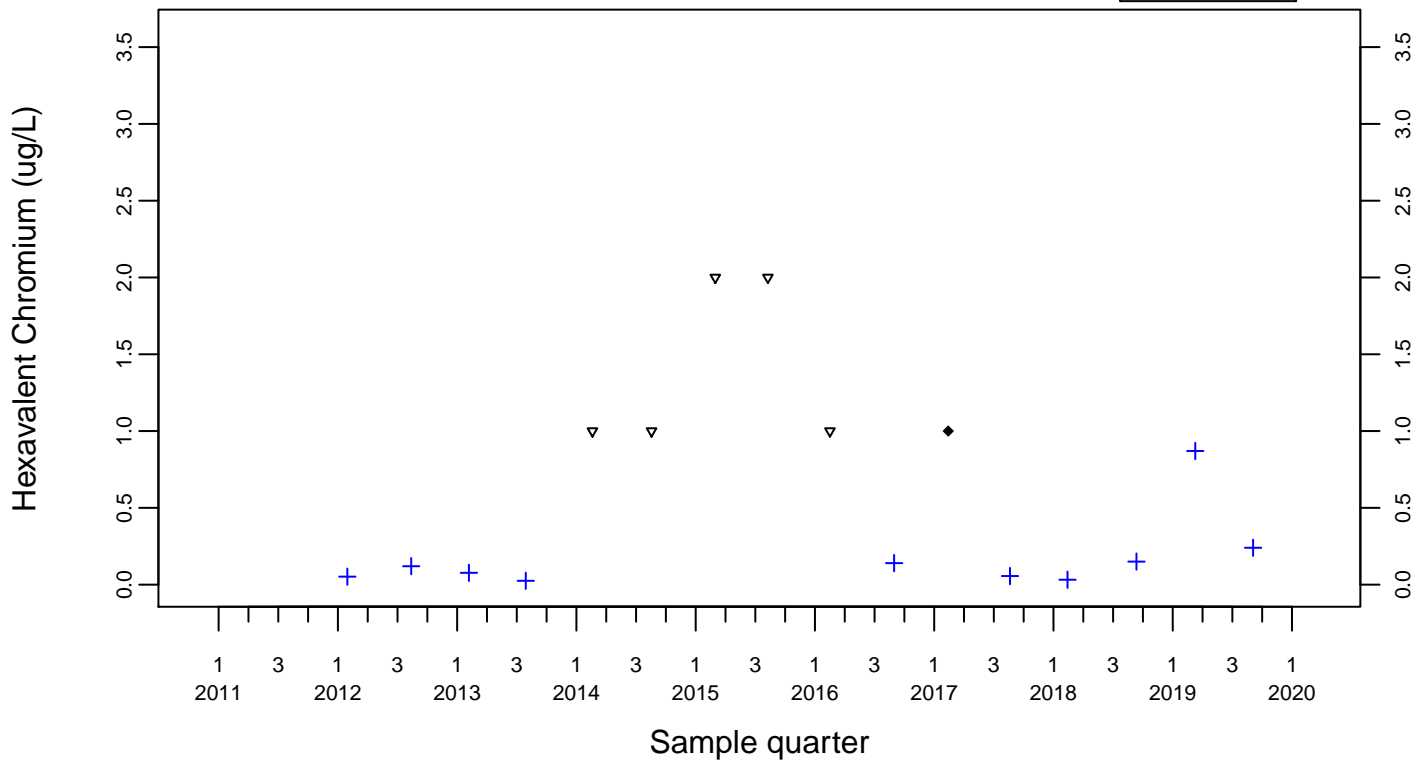
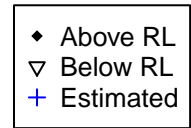


Downgradient Monitor Well W-25N-23

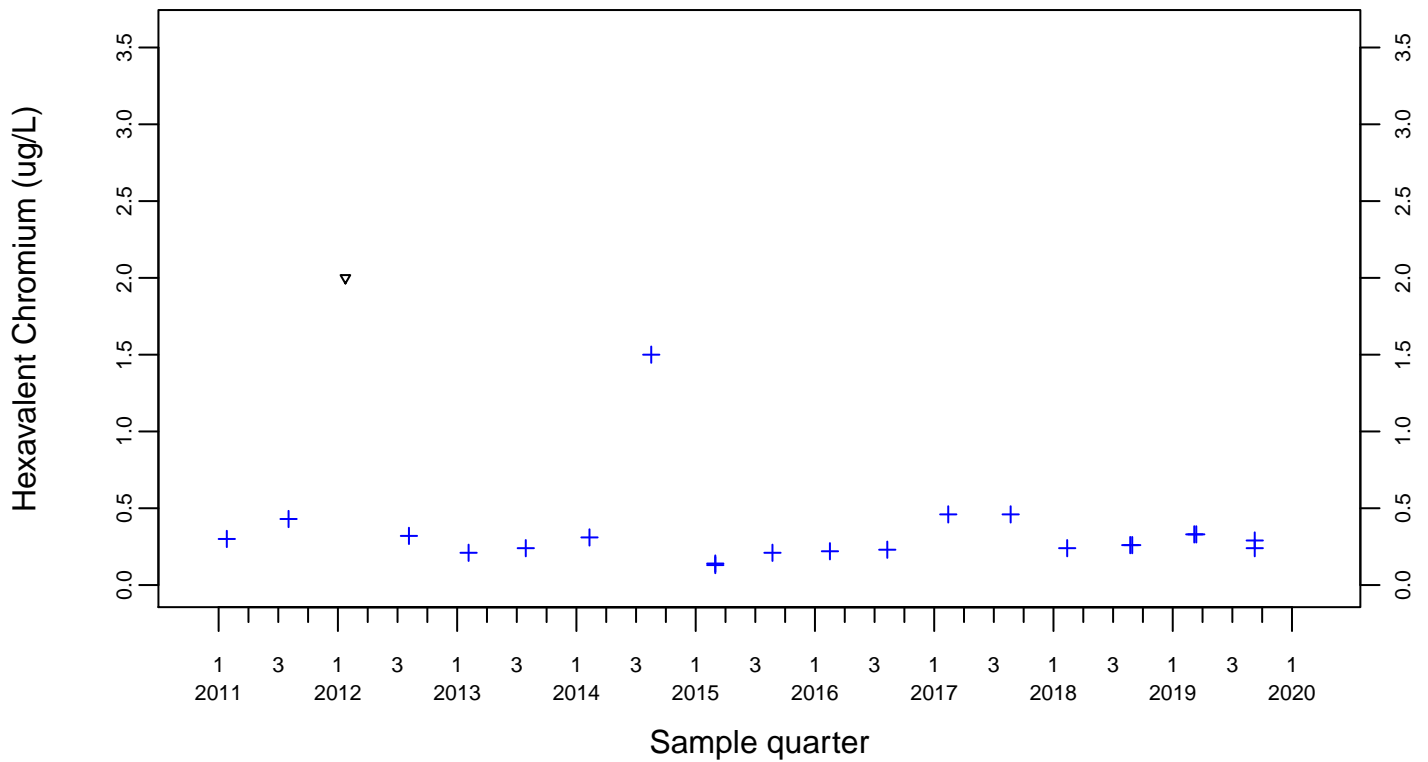


Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)

Downgradient Monitor Well W-25N-22



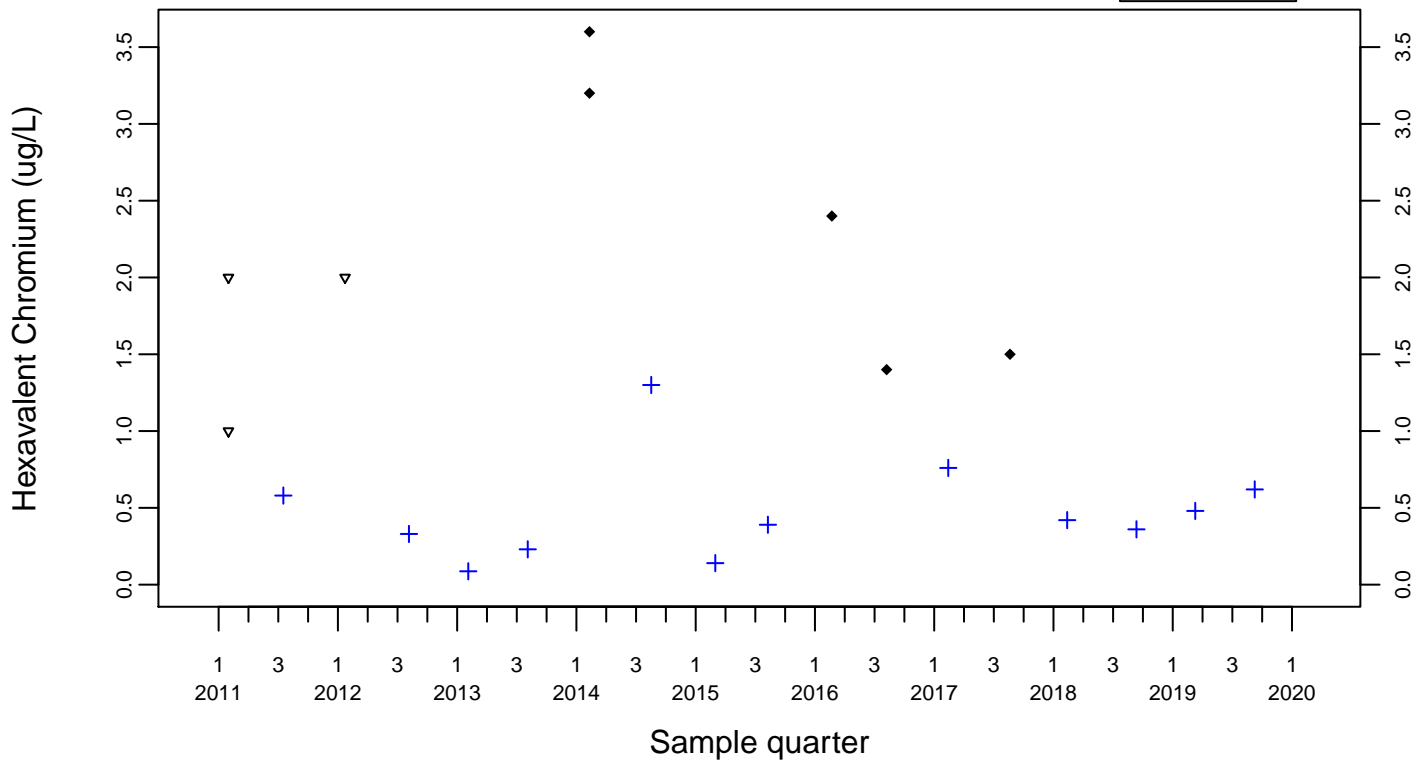
Downgradient Monitor Well W-26R-01



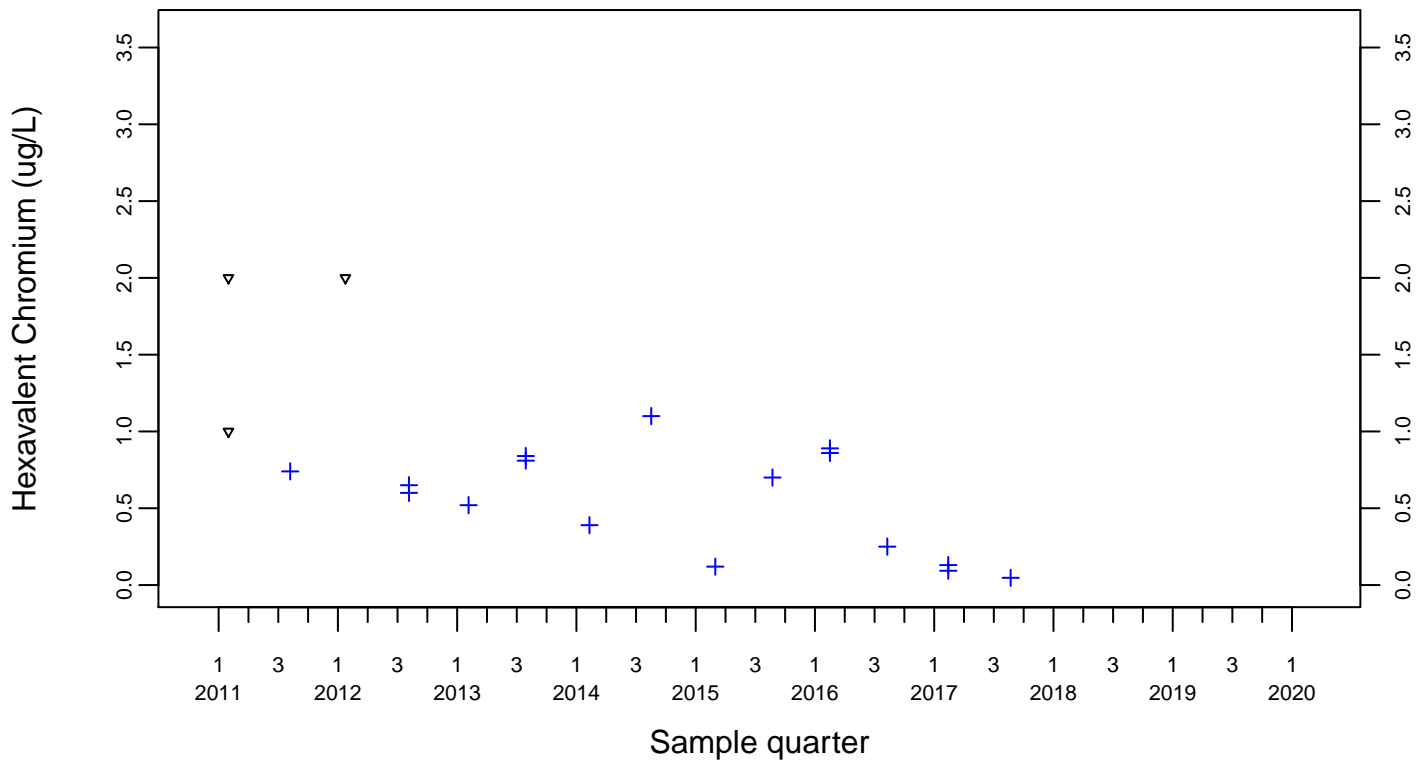
Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated

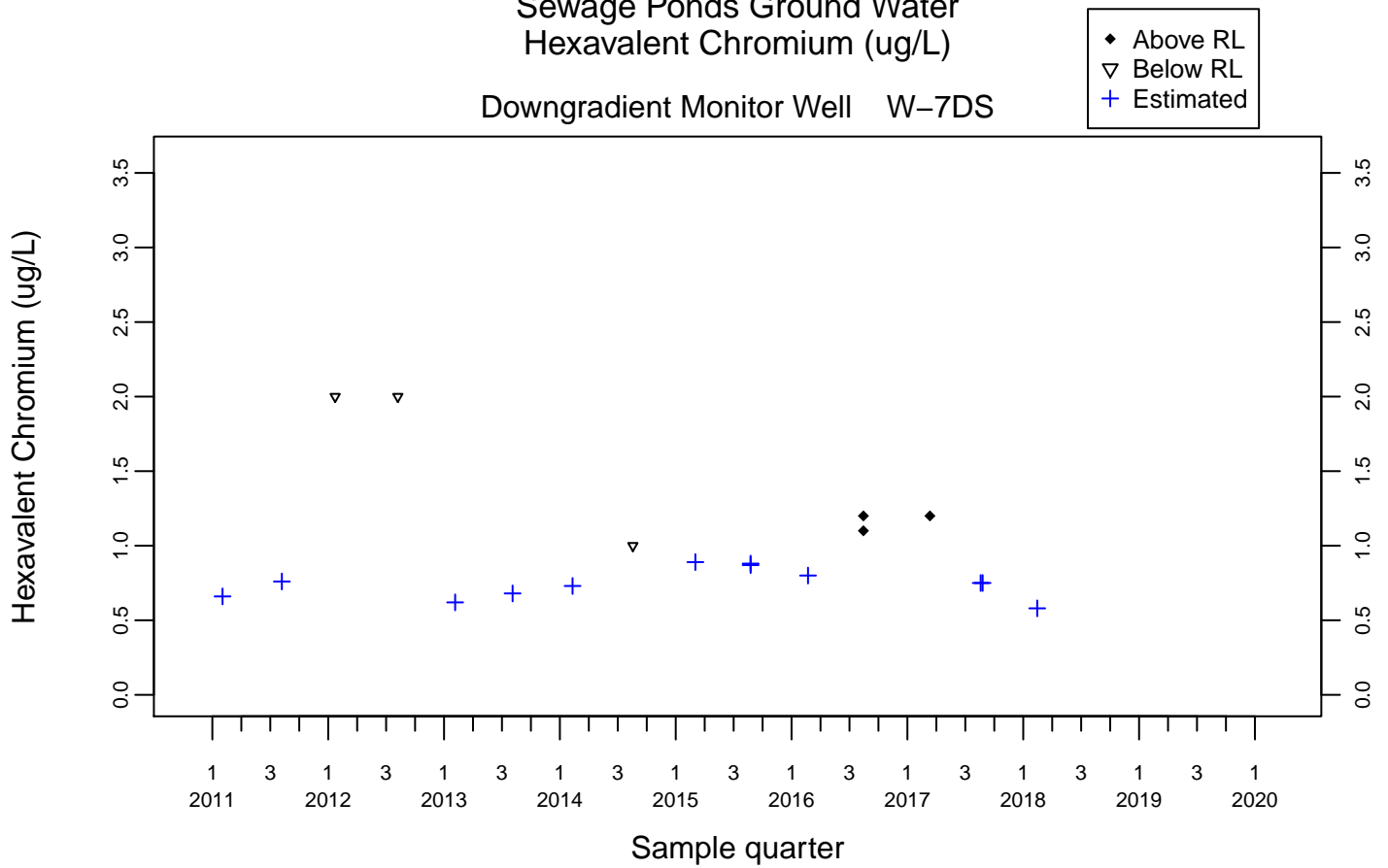


Downgradient Monitor Well W-26R-11



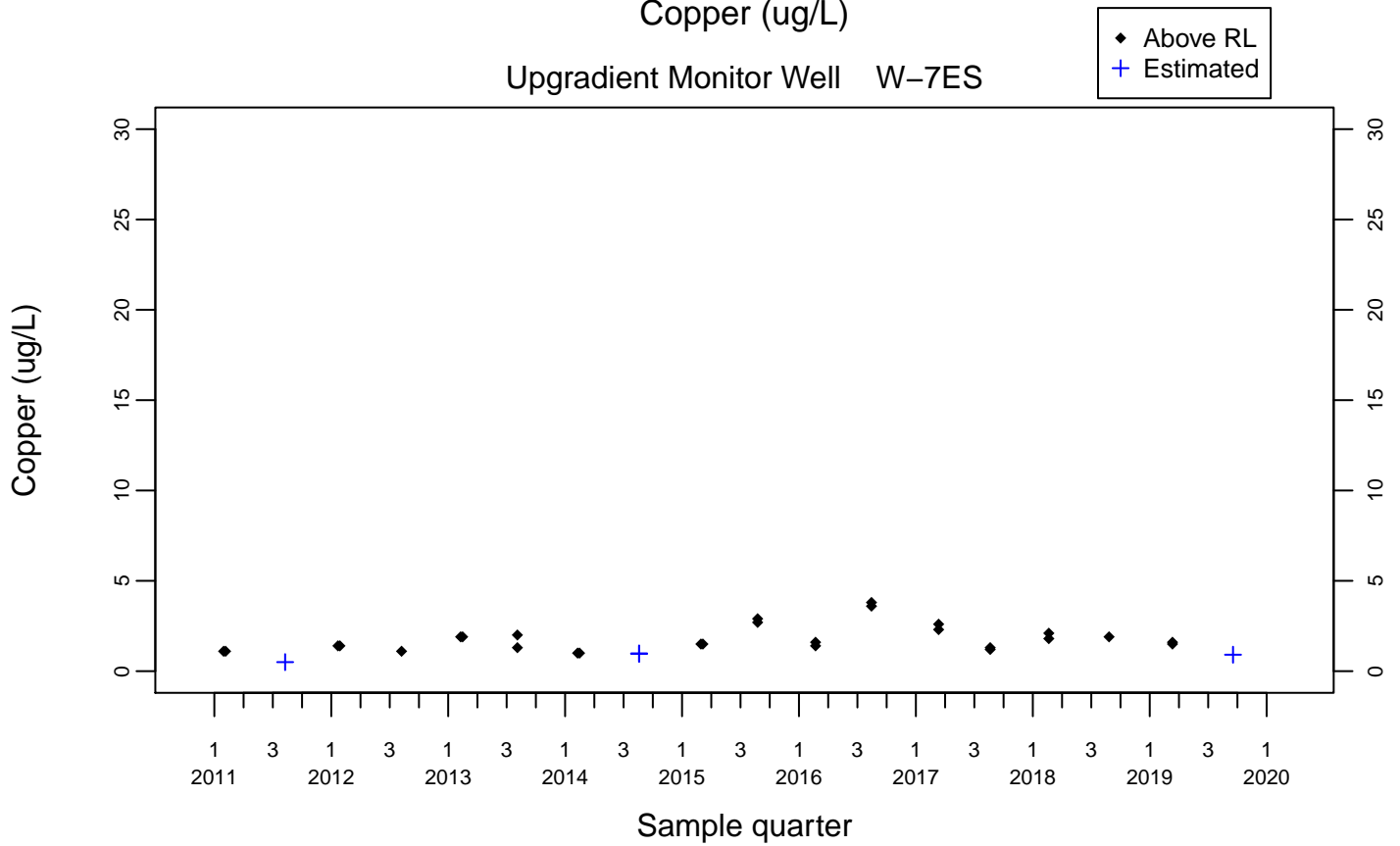
Sewage Ponds Ground Water
Hexavalent Chromium (ug/L)

Downgradient Monitor Well W-7DS

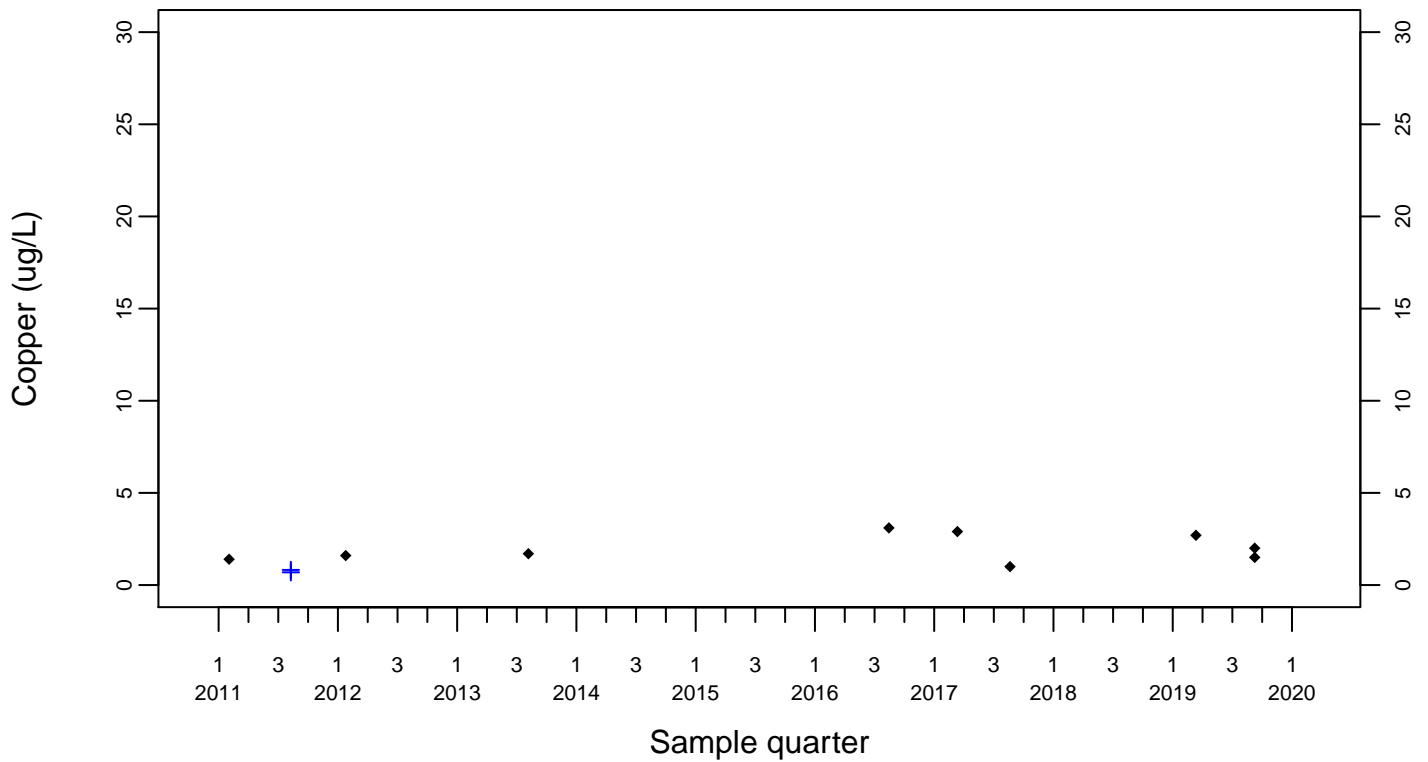


Sewage Ponds Ground Water
Copper (ug/L)

Upgradient Monitor Well W-7ES



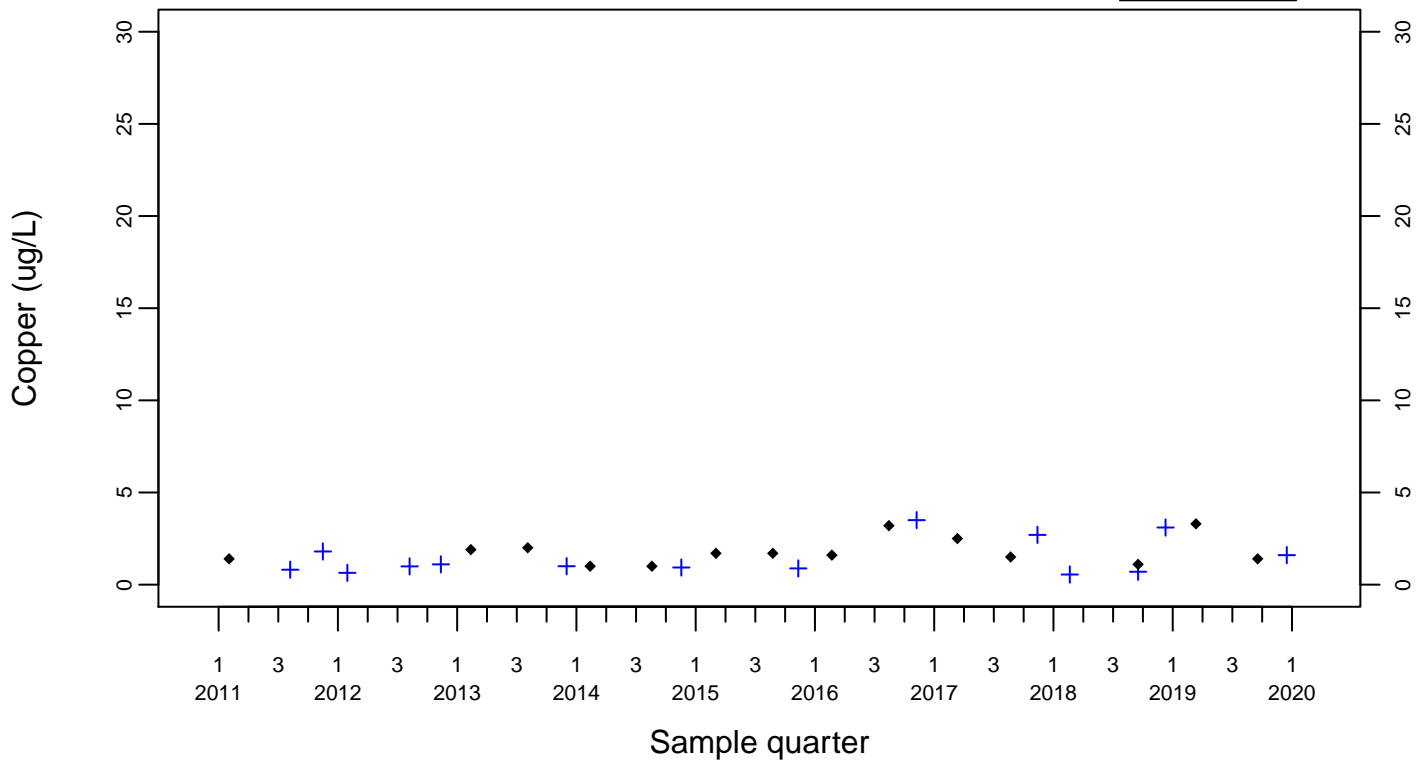
Upgradient Monitor Well W-7PS



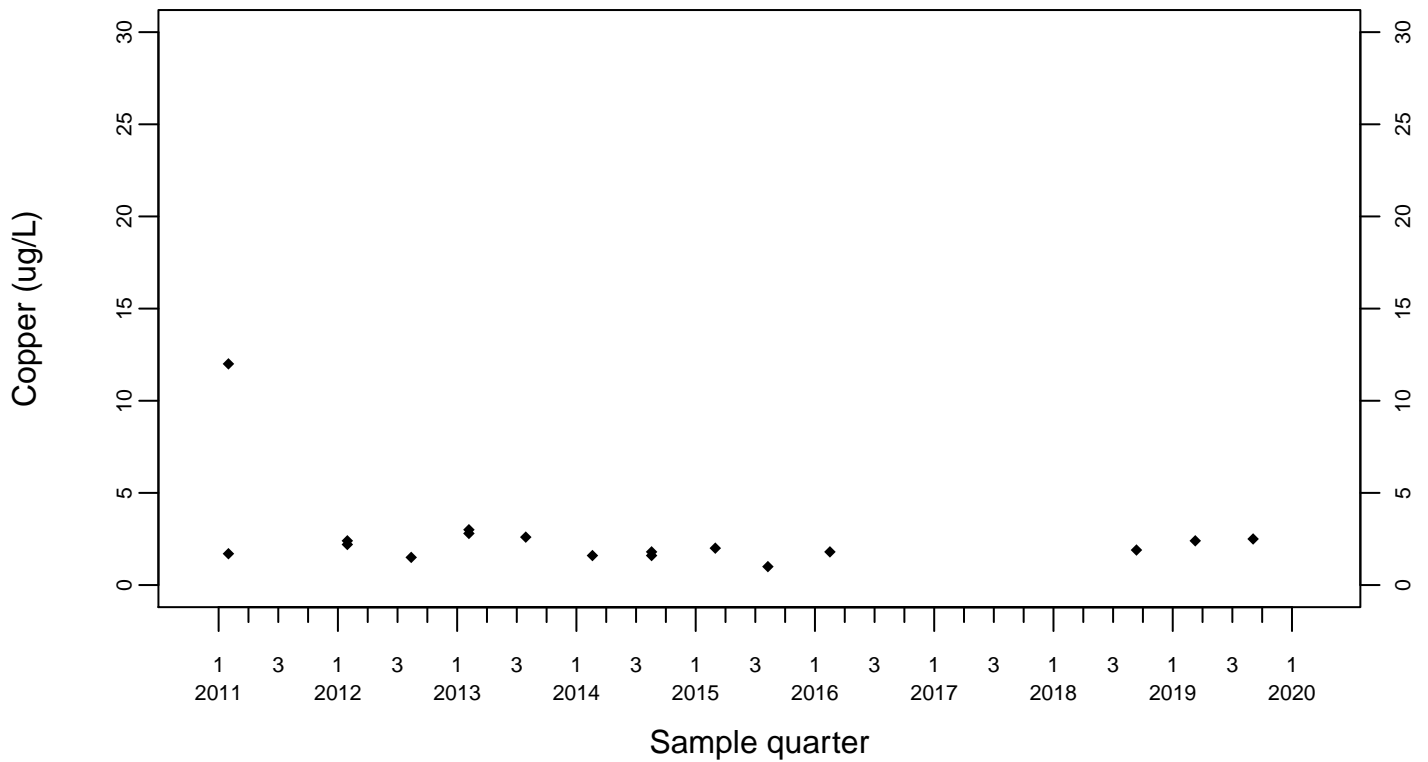
Sewage Ponds Ground Water
Copper (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
+ Estimated



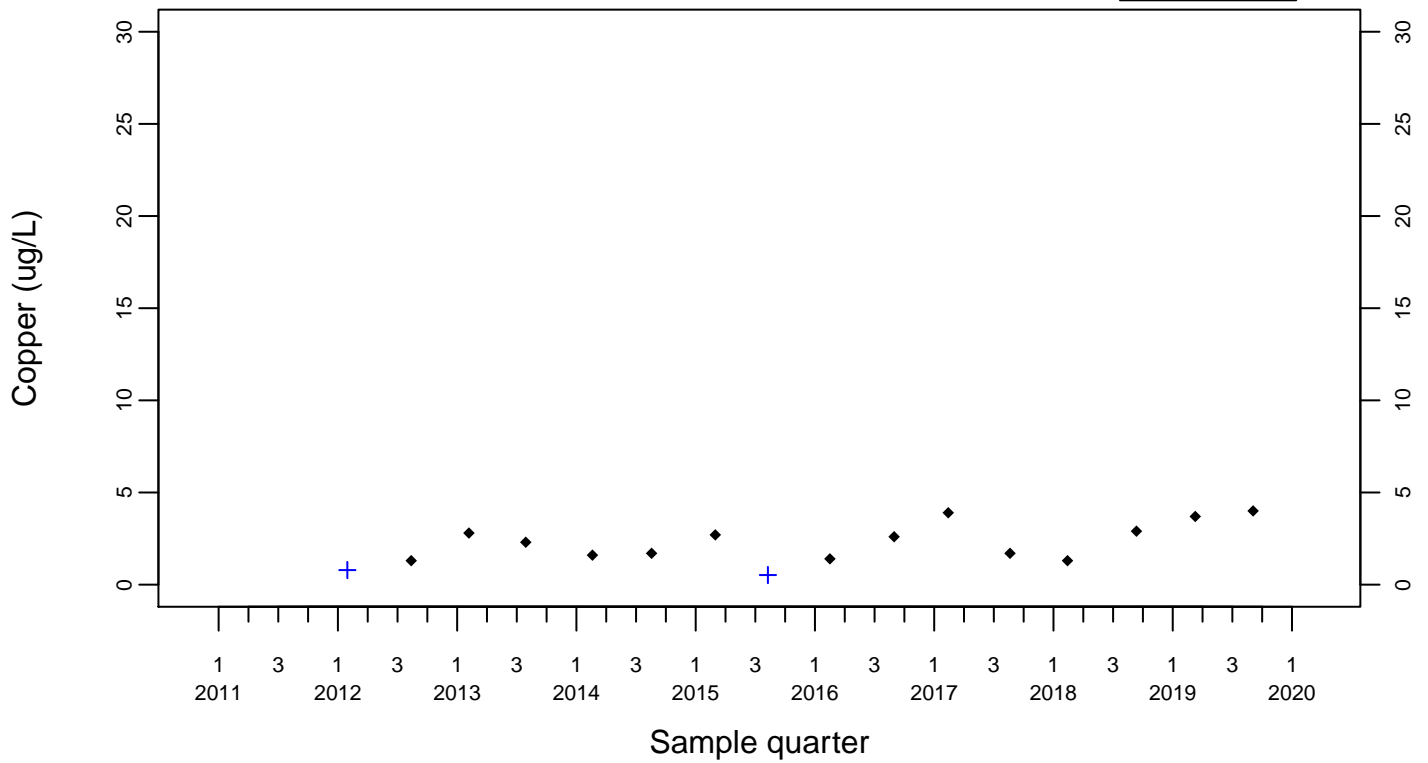
Downgradient Monitor Well W-25N-23



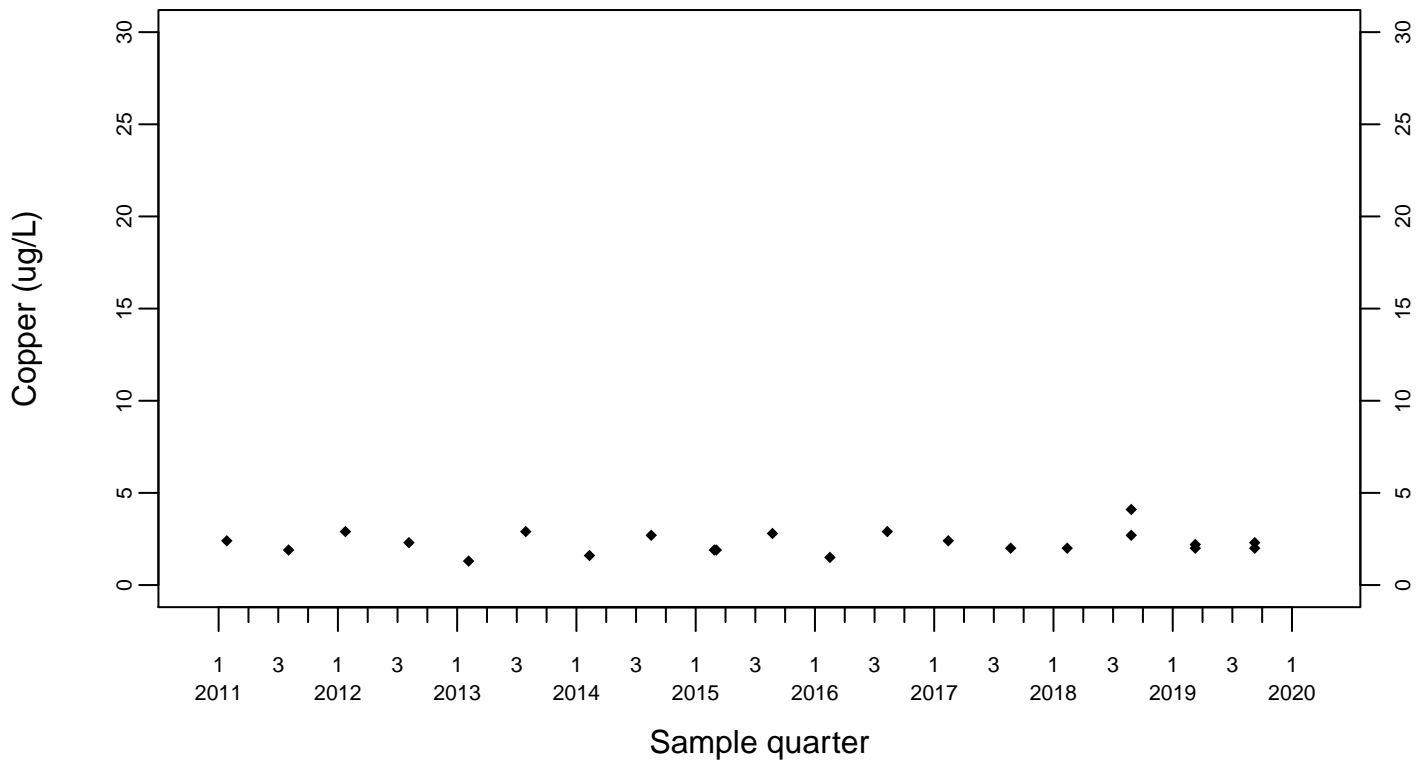
Sewage Ponds Ground Water
Copper (ug/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
+ Estimated

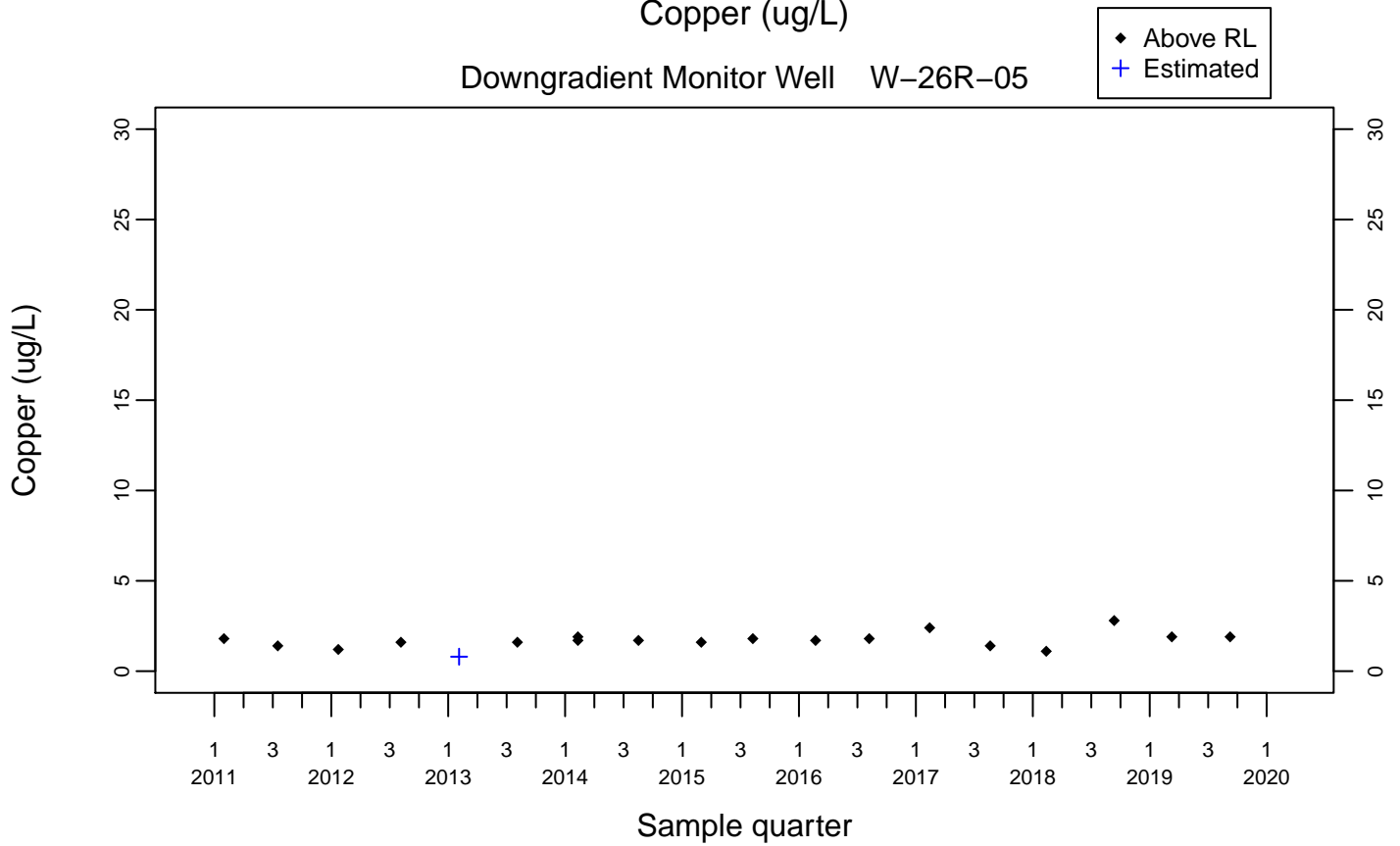


Downgradient Monitor Well W-26R-01

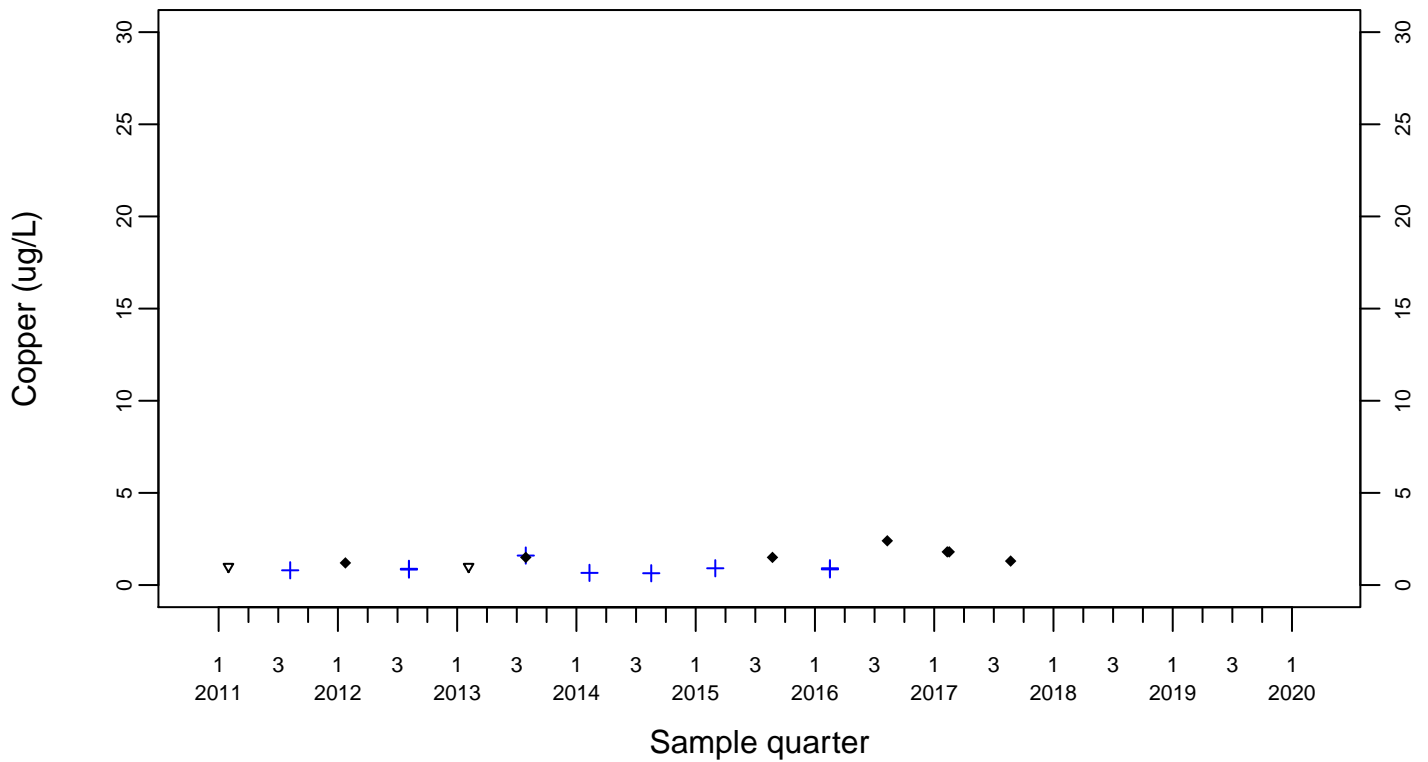


Sewage Ponds Ground Water
Copper (ug/L)

Downgradient Monitor Well W-26R-05

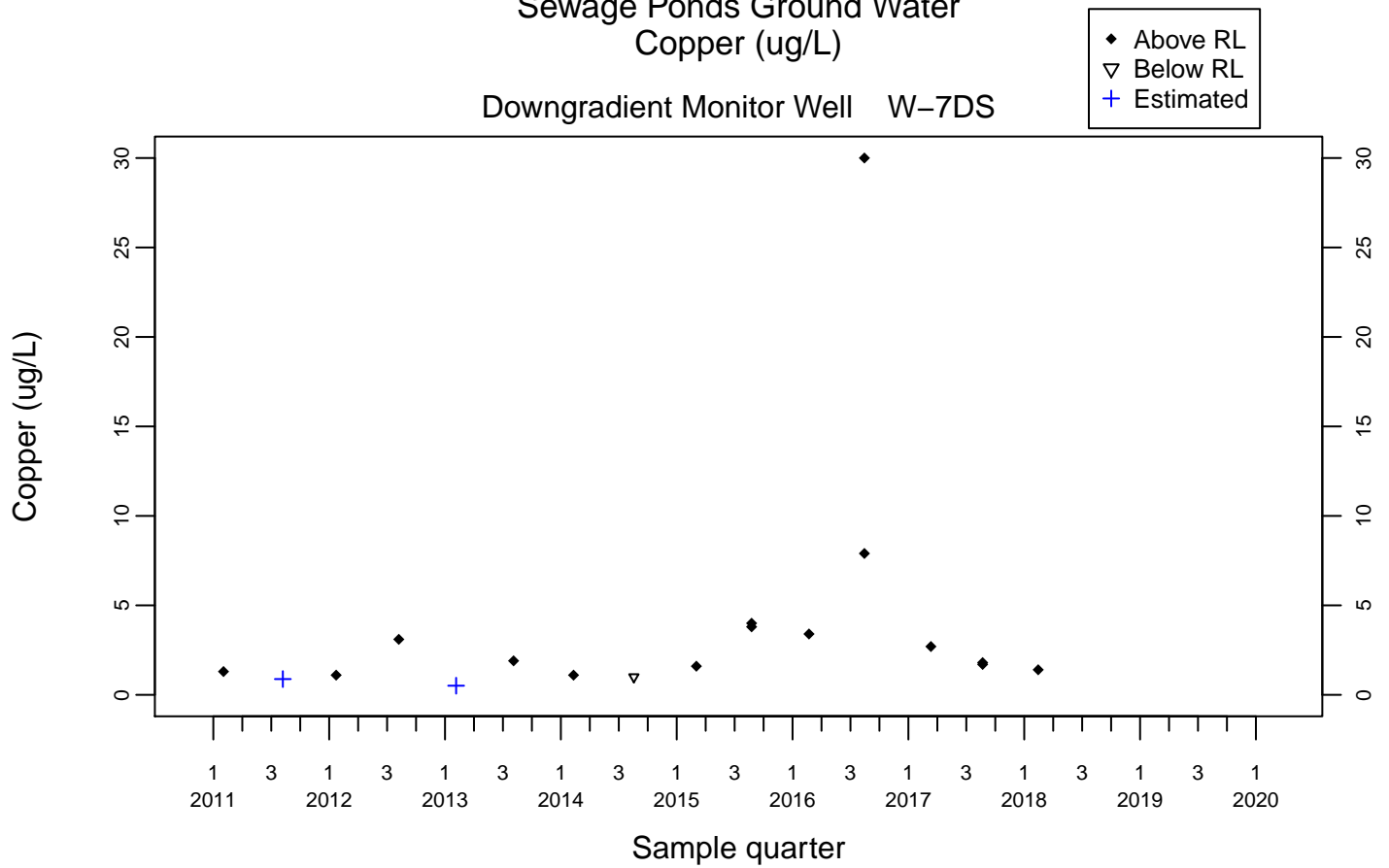


Downgradient Monitor Well W-26R-11



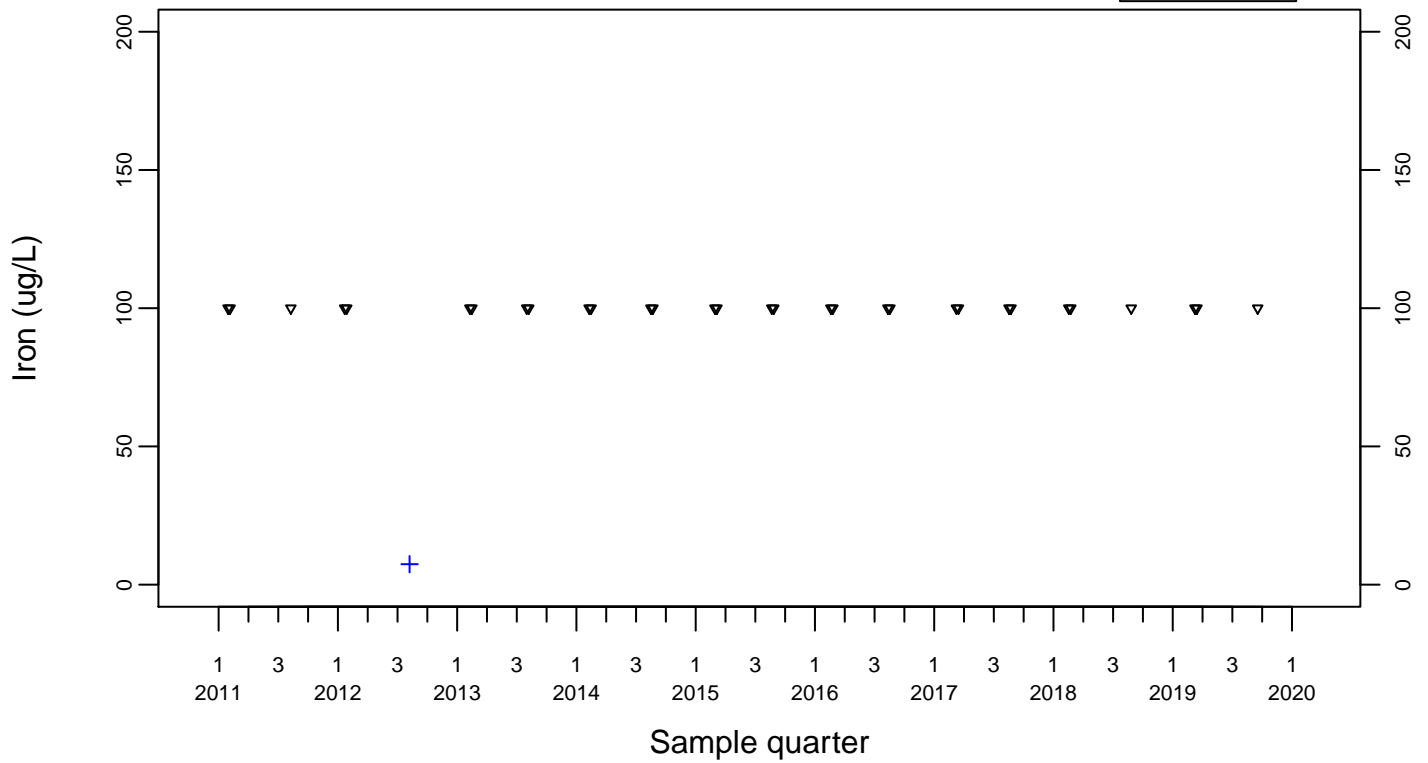
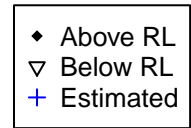
Sewage Ponds Ground Water
Copper (ug/L)

Downgradient Monitor Well W-7DS

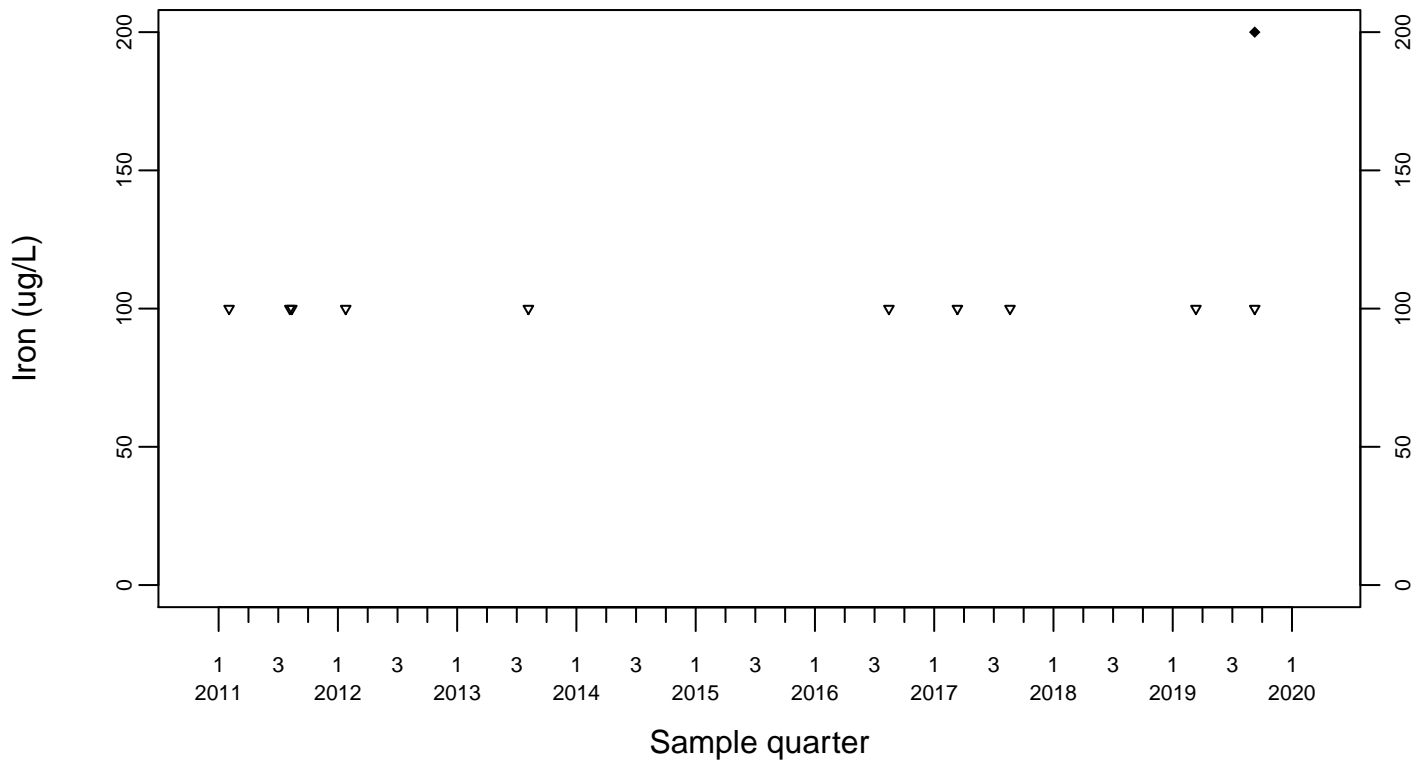


Sewage Ponds Ground Water
Iron (ug/L)

Upgradient Monitor Well W-7ES



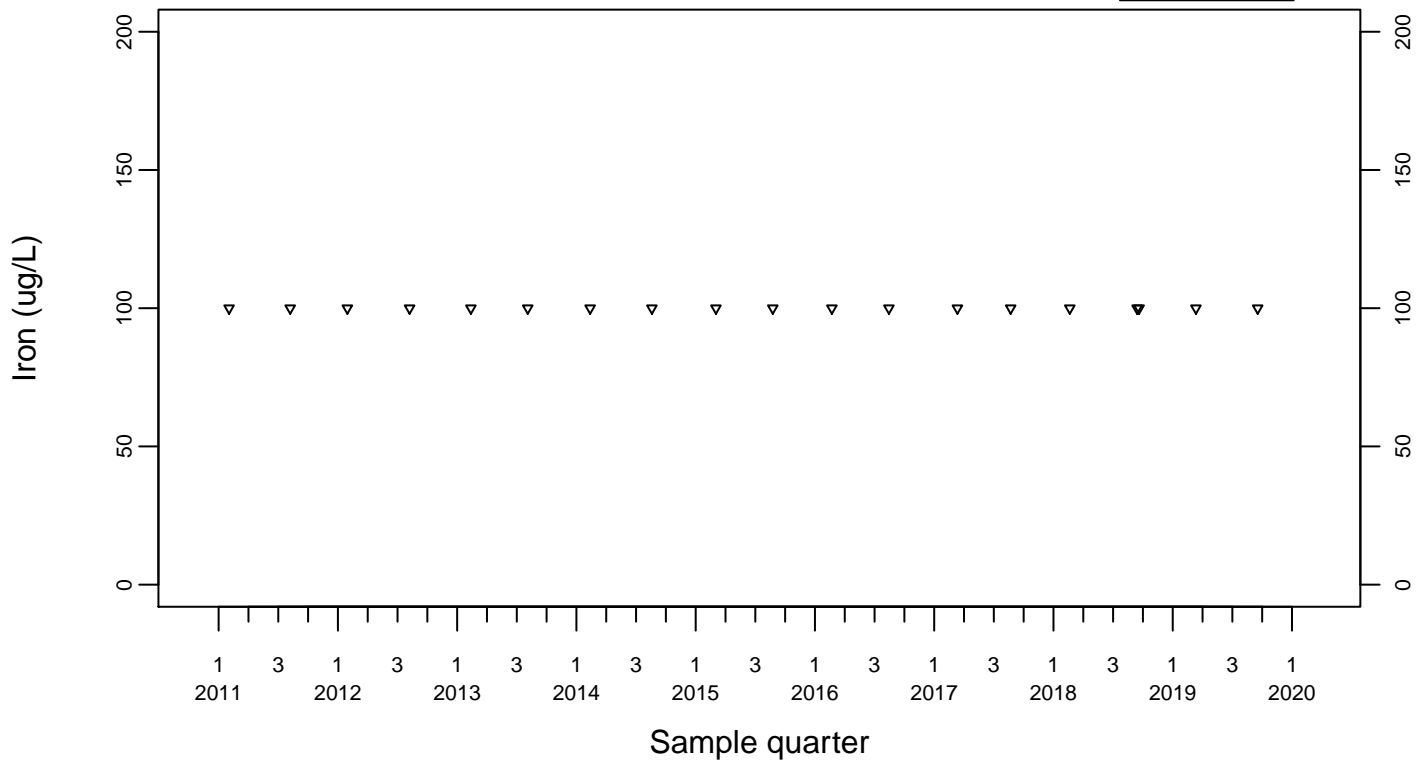
Upgradient Monitor Well W-7PS



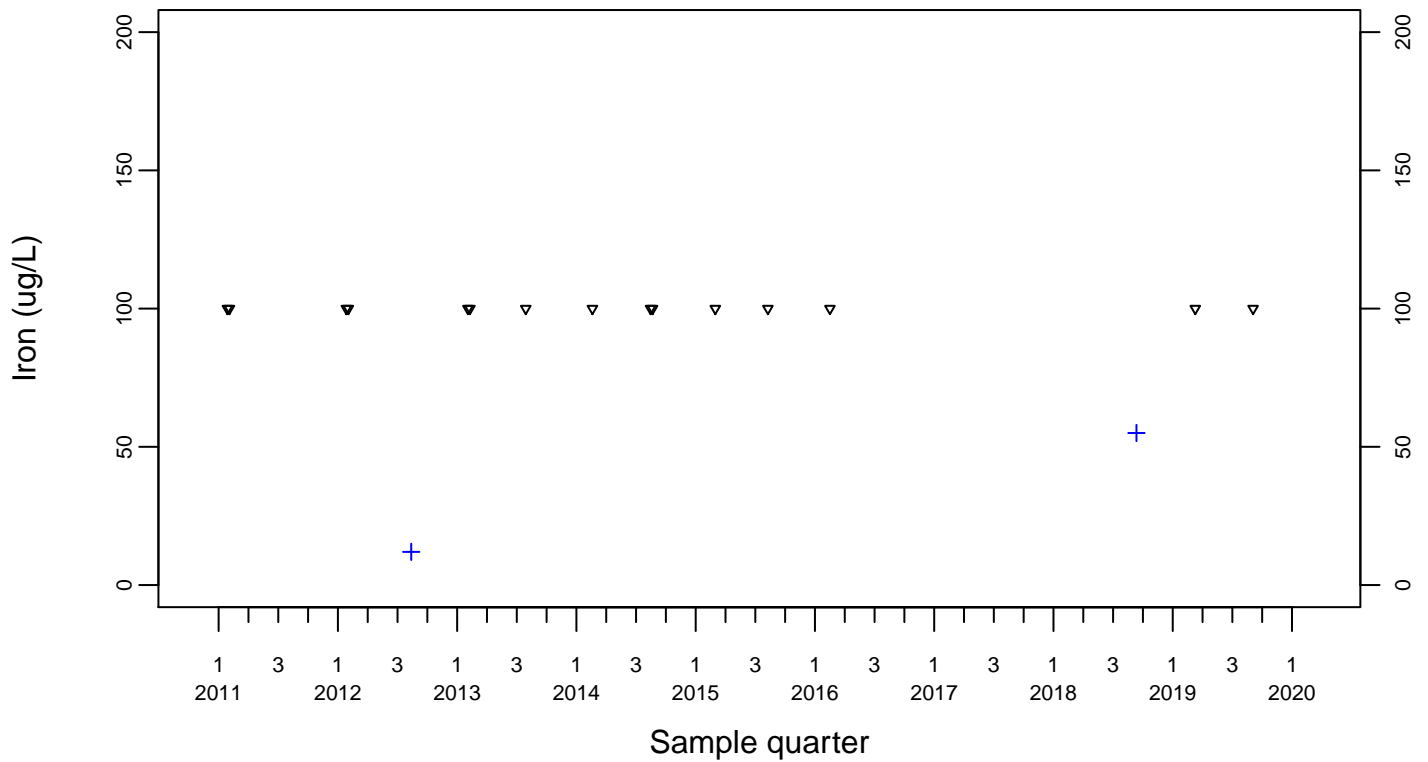
Sewage Ponds Ground Water Iron (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



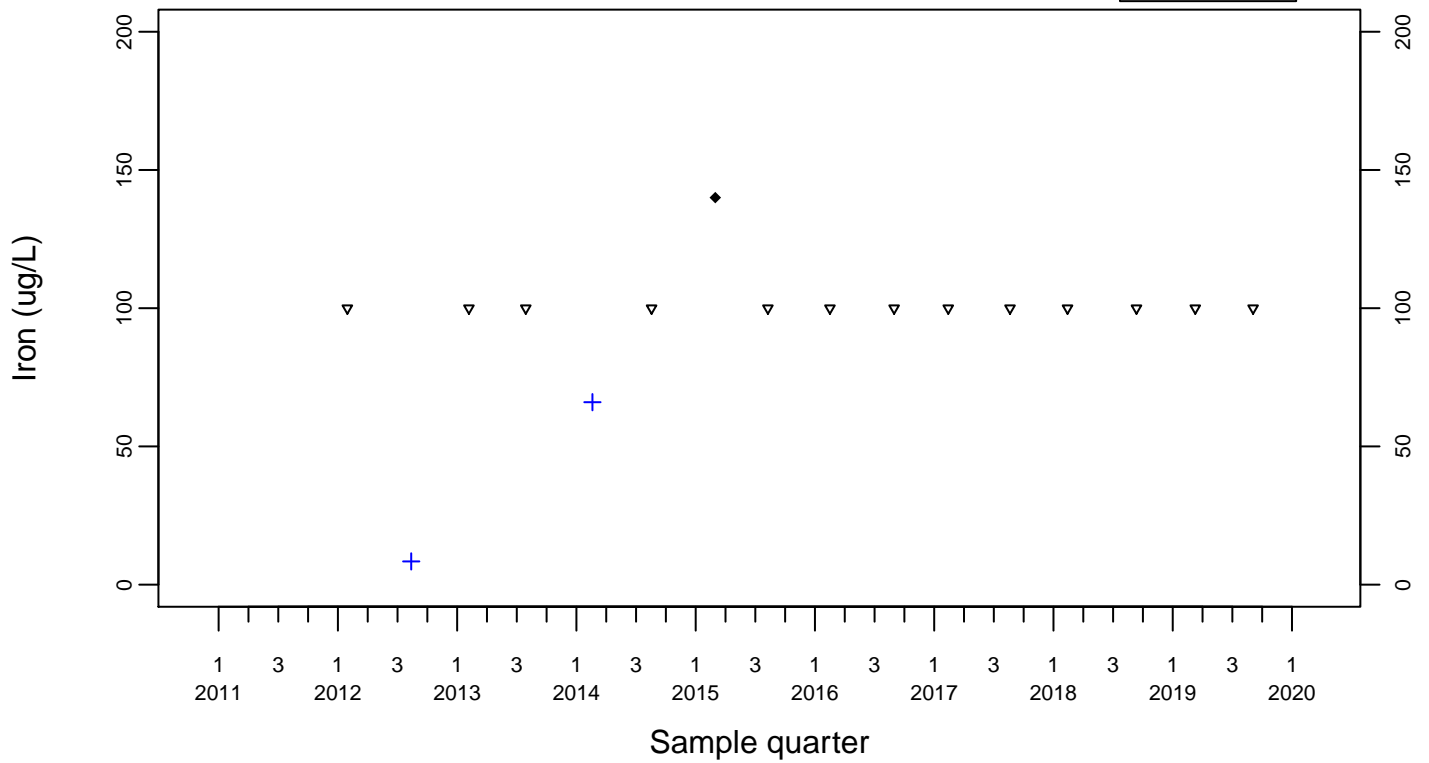
Downgradient Monitor Well W-25N-23



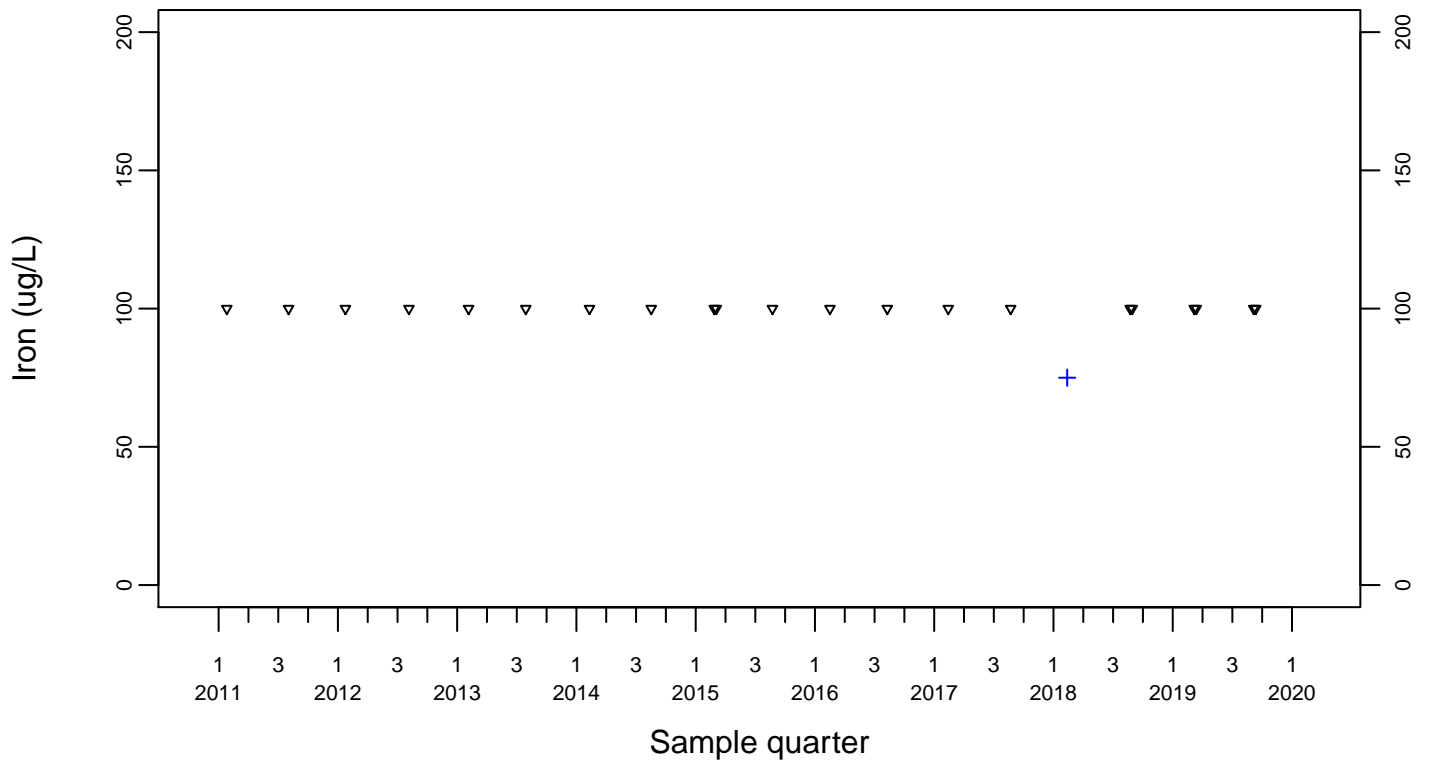
Sewage Ponds Ground Water Iron (ug/L)

Downgradient Monitor Well W-25N-22

- ◆ Above RL
- ▽ Below RL
- + Estimated



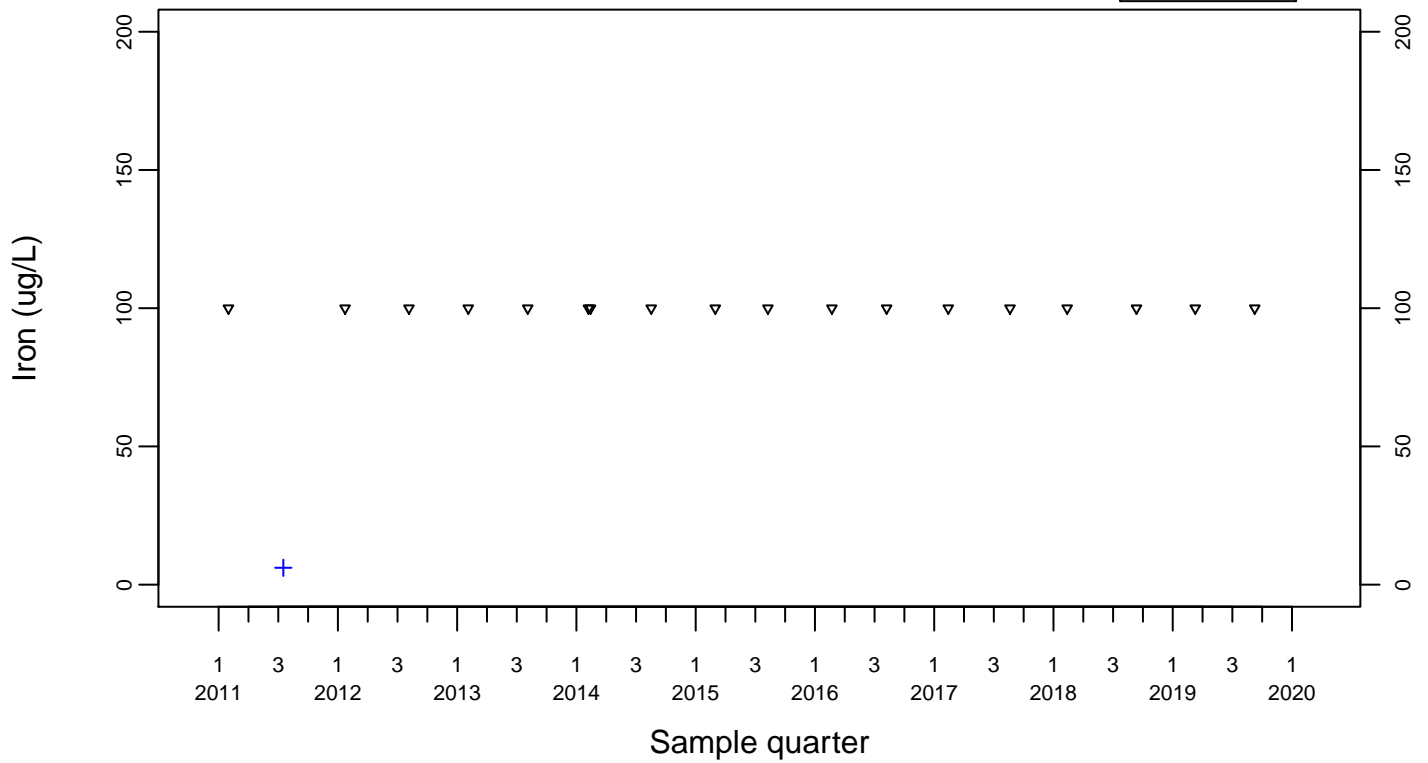
Downgradient Monitor Well W-26R-01



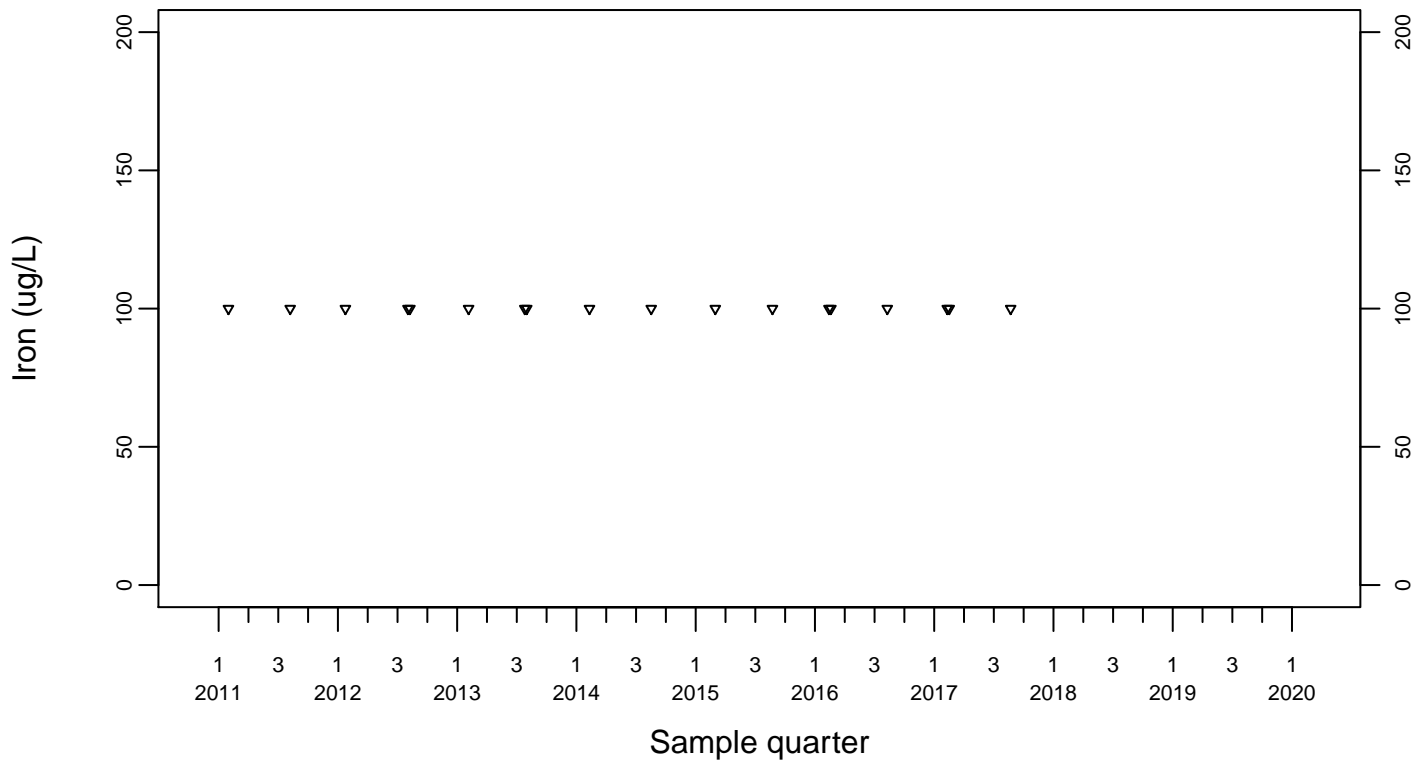
Sewage Ponds Ground Water
Iron (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated

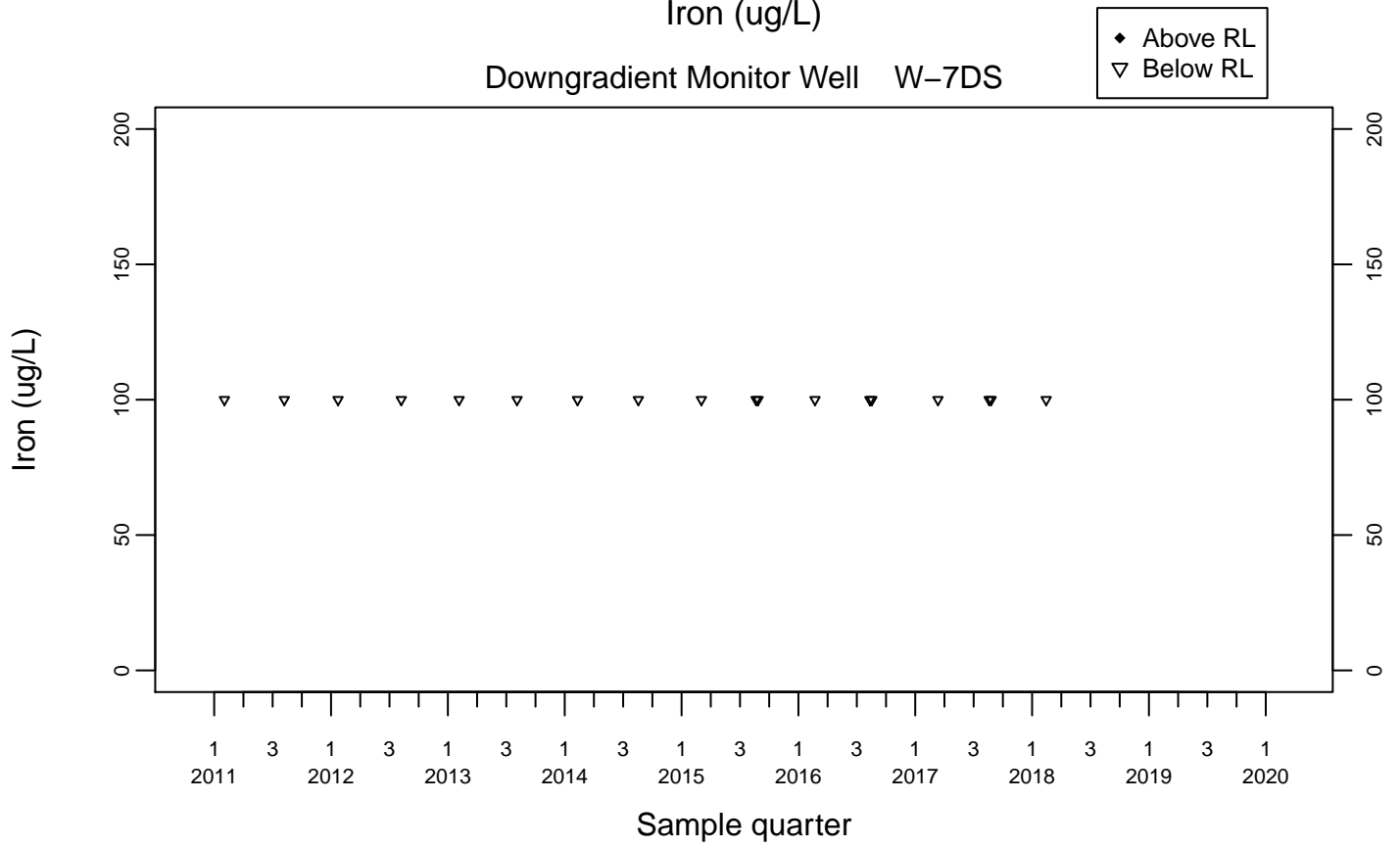


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Iron (ug/L)

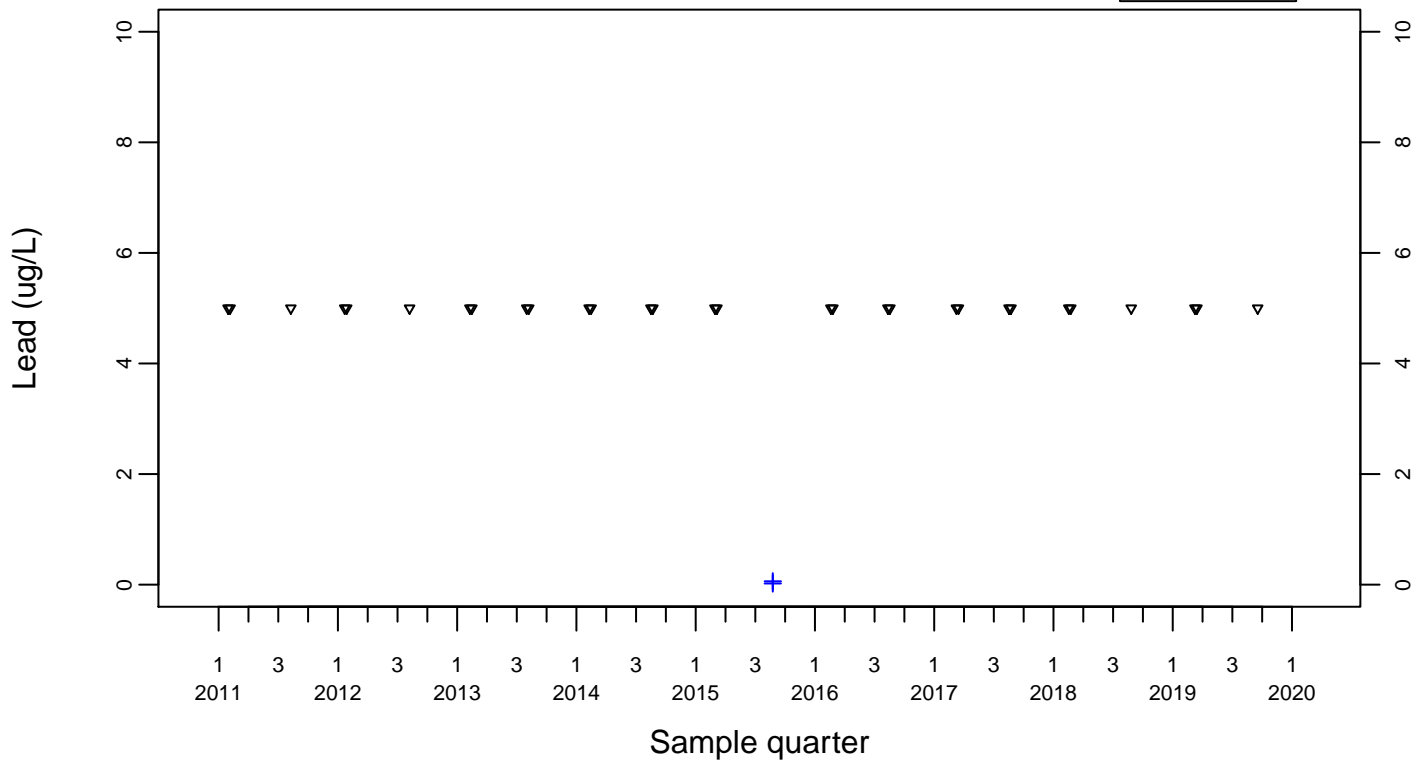
Downgradient Monitor Well W-7DS



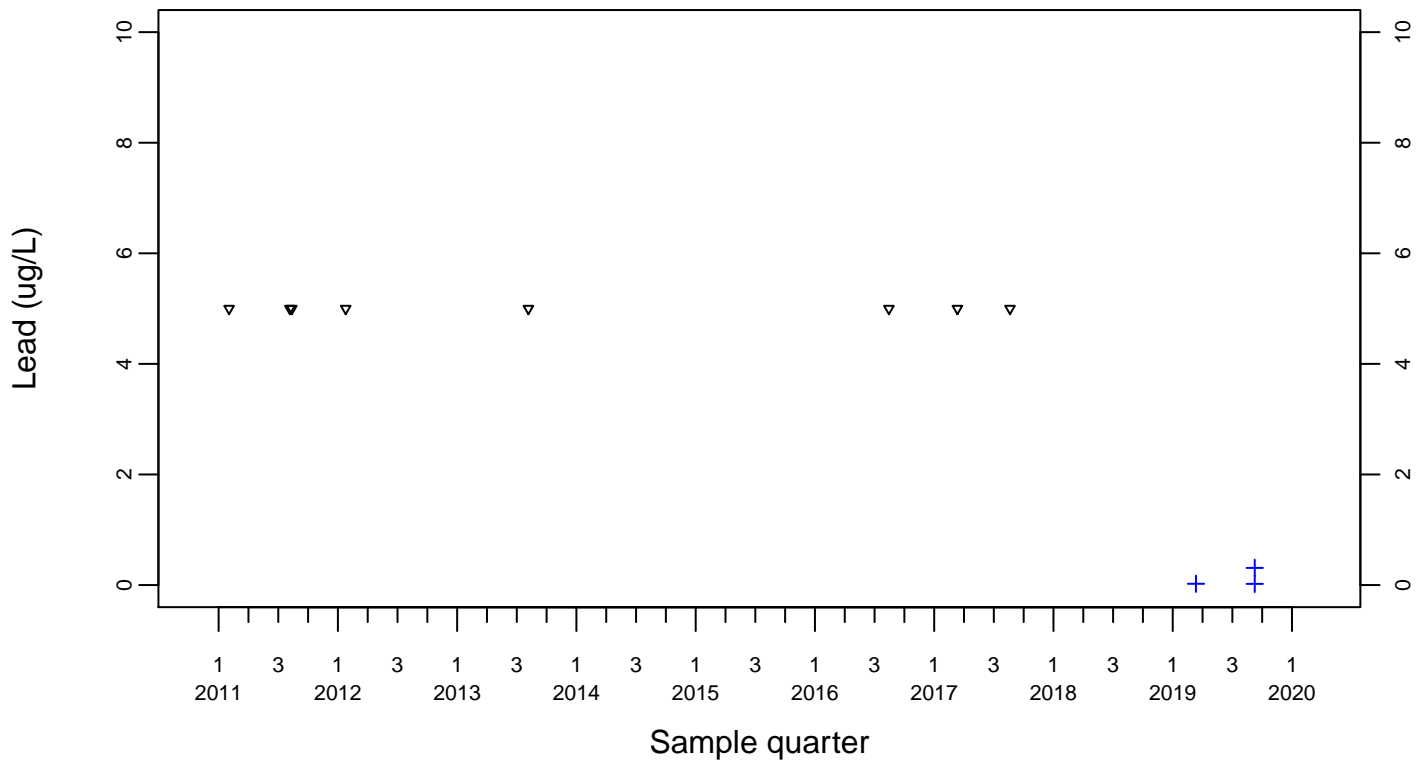
Sewage Ponds Ground Water
Lead (ug/L)

Upgradient Monitor Well W-7ES

- ◆ Above RL
- ▽ Below RL
- + Estimated



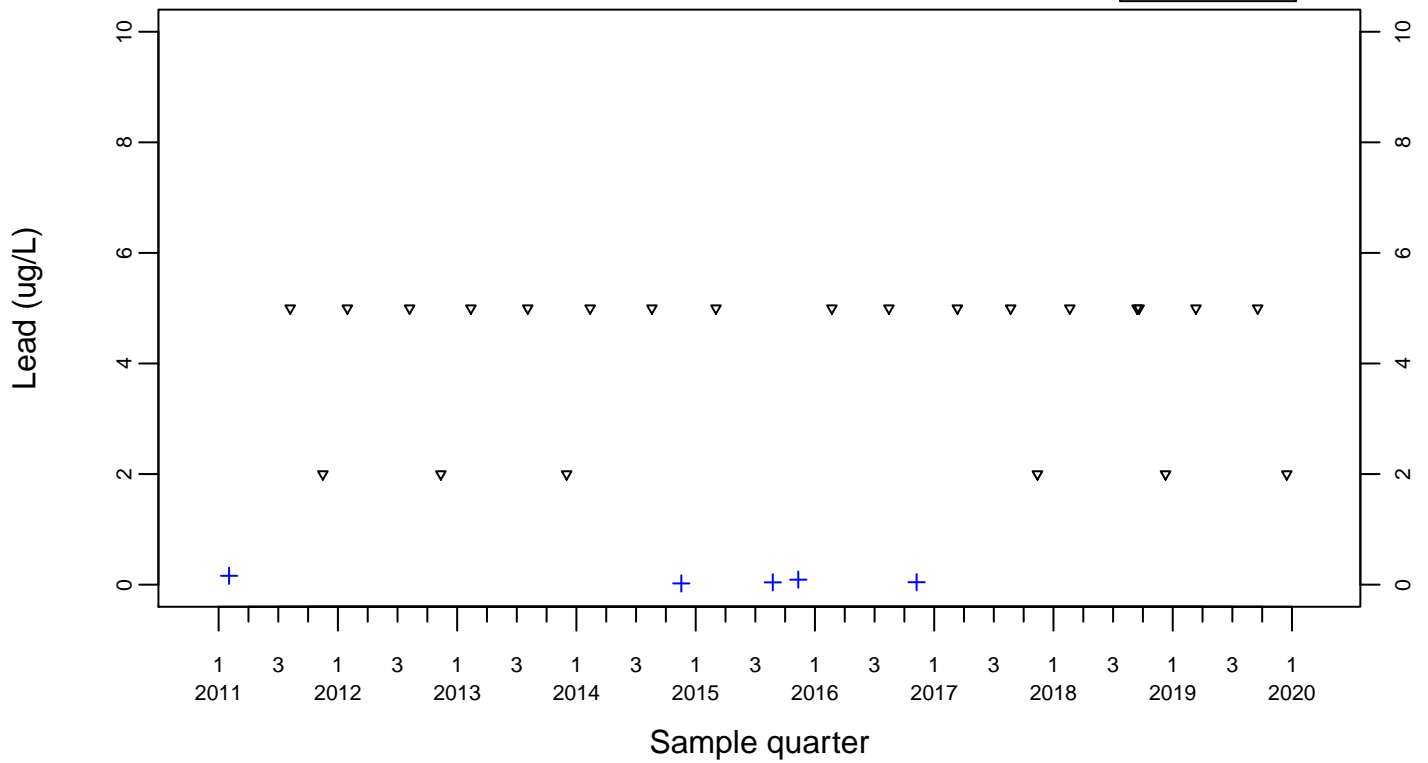
Upgradient Monitor Well W-7PS



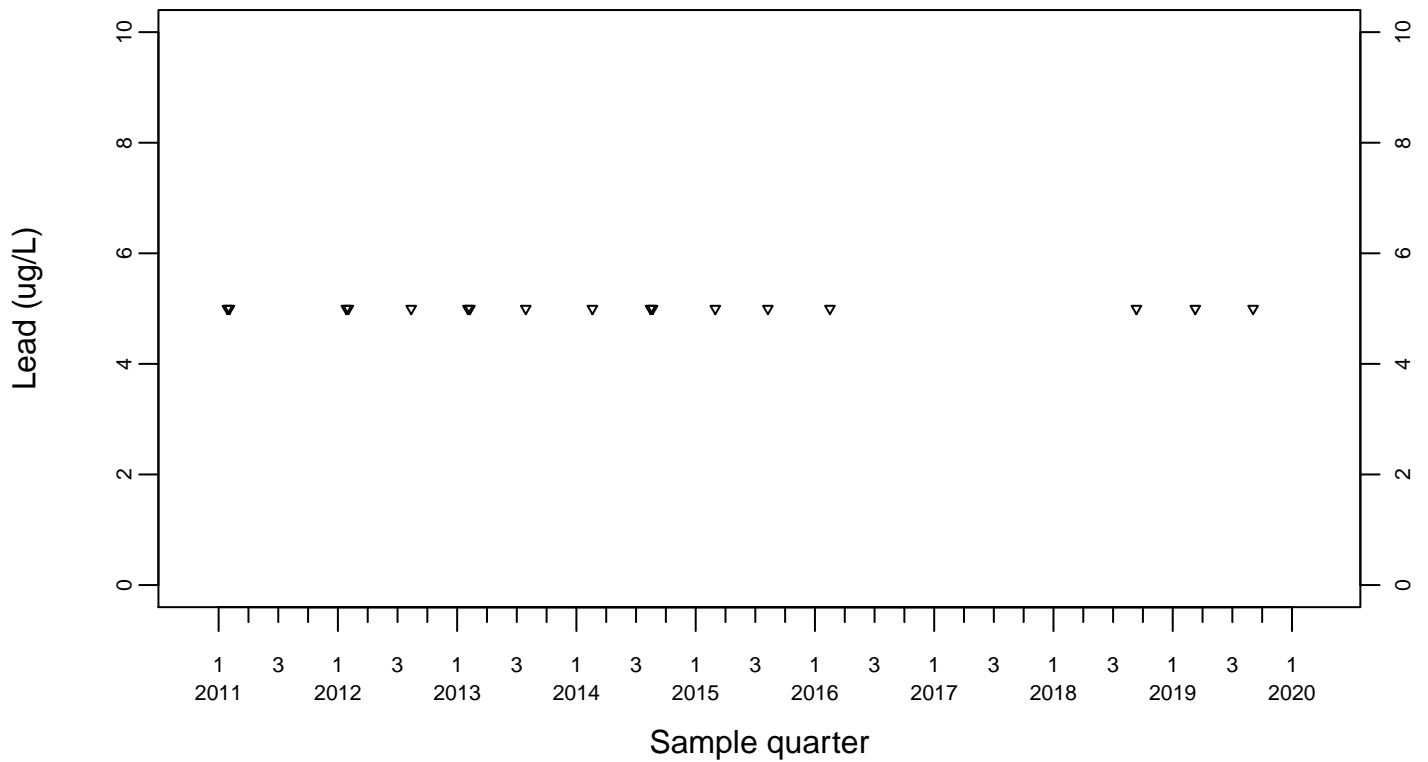
Sewage Ponds Ground Water
Lead (ug/L)

Crossgradient Monitor Well W-35A-04

- ◆ Above RL
- ▽ Below RL
- + Estimated



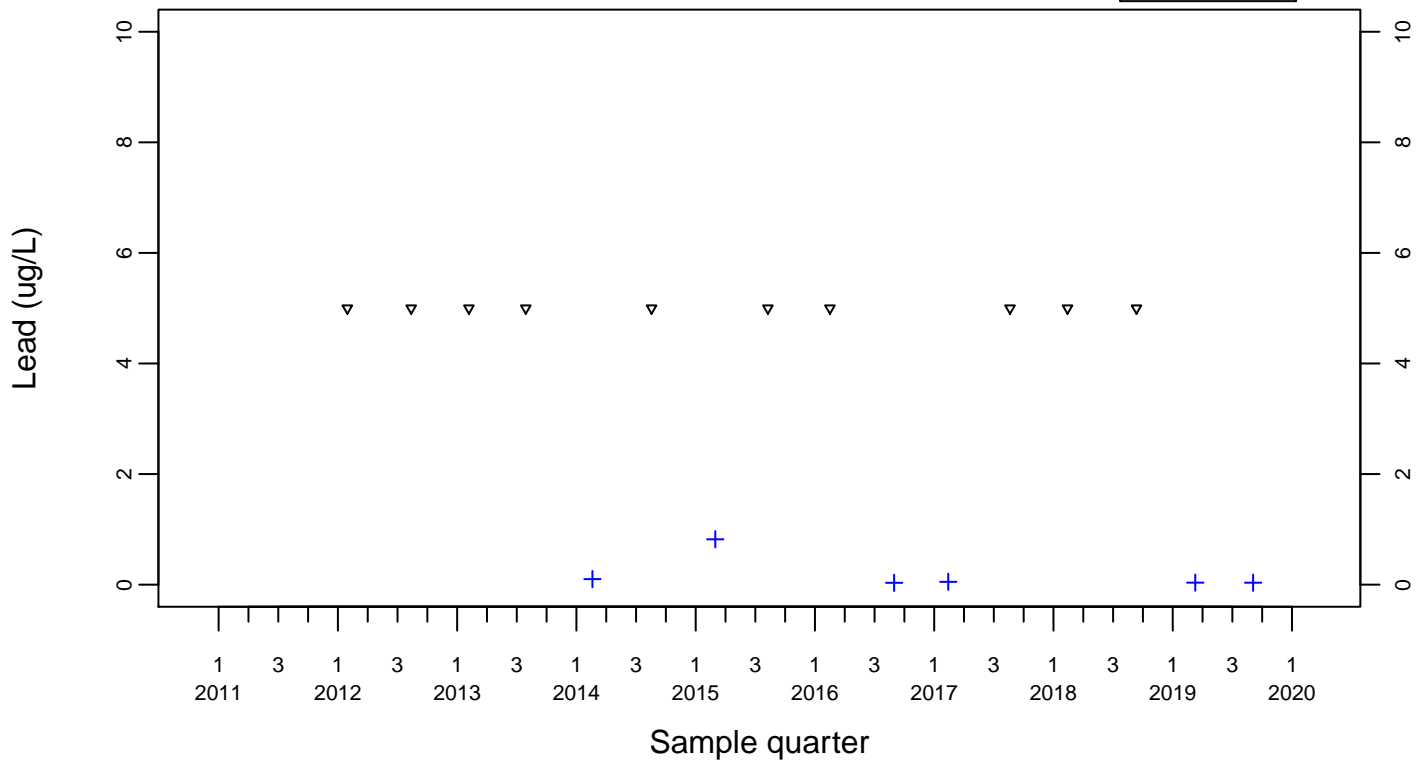
Downgradient Monitor Well W-25N-23



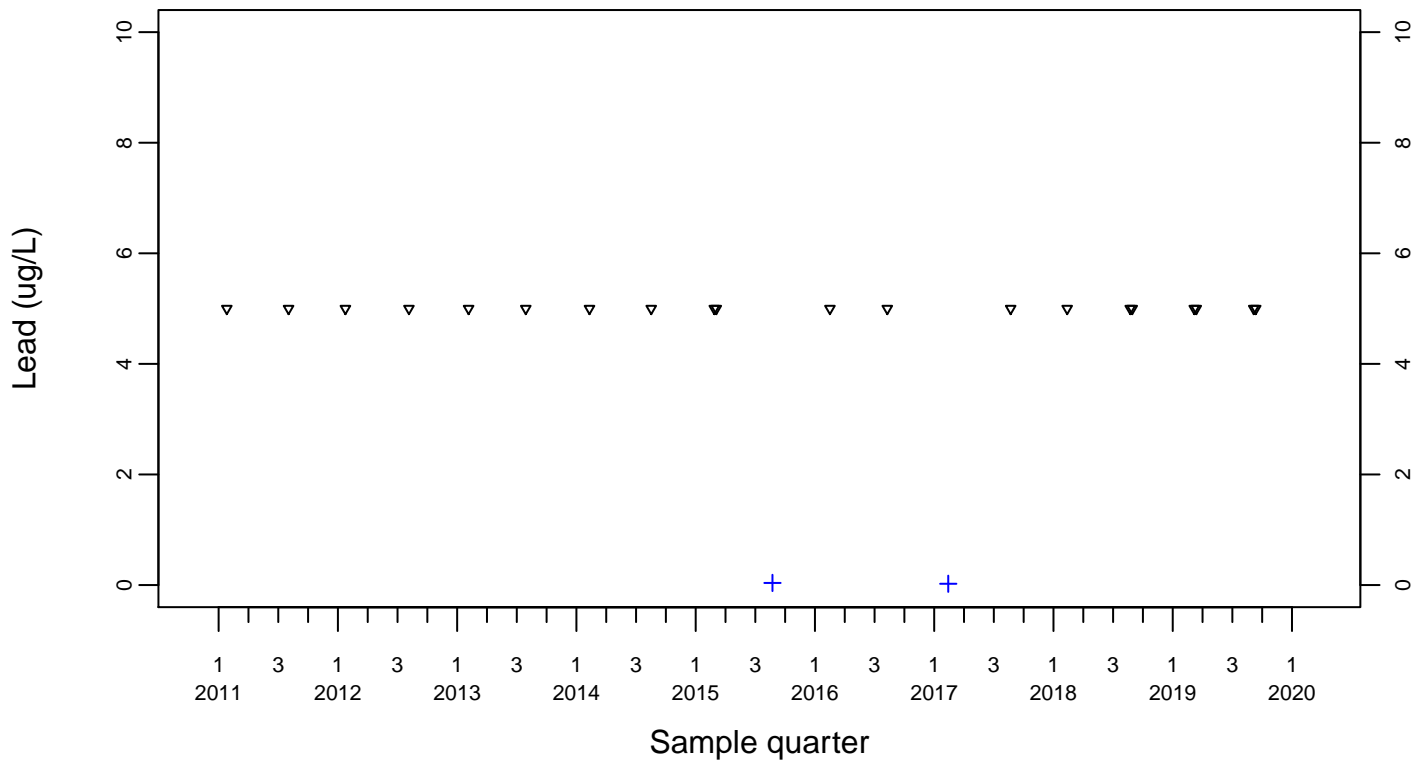
Sewage Ponds Ground Water
Lead (ug/L)

Downgradient Monitor Well W-25N-22

- ◆ Above RL
- ▽ Below RL
- + Estimated



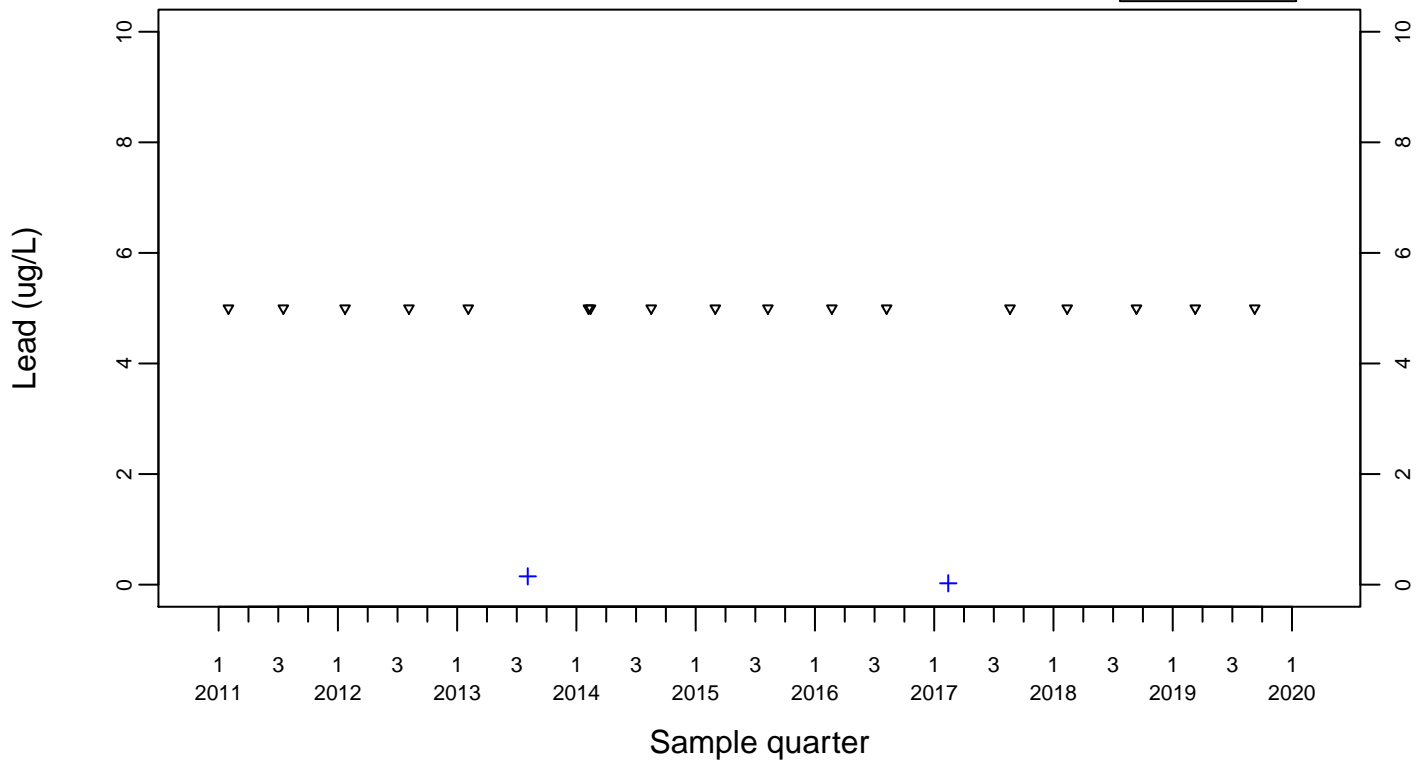
Downgradient Monitor Well W-26R-01



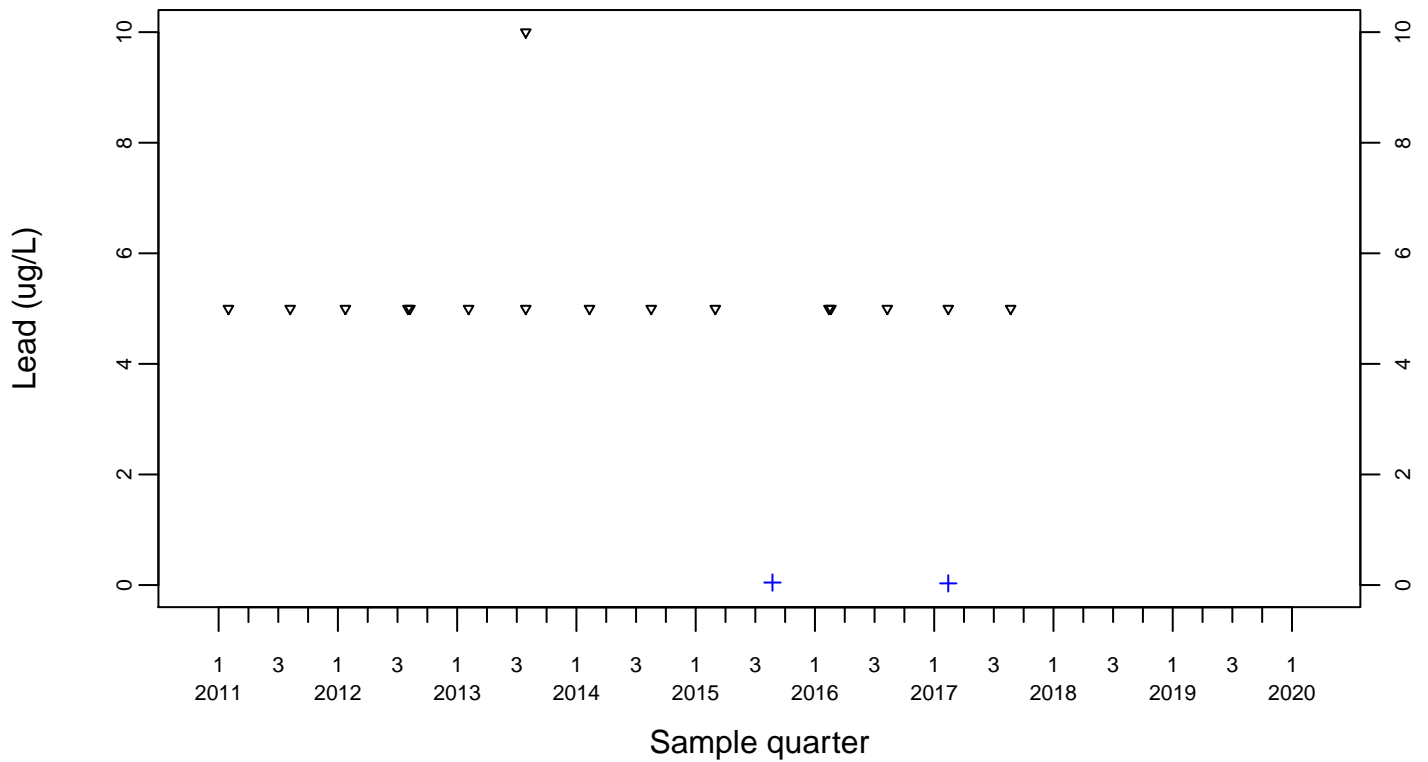
Sewage Ponds Ground Water
Lead (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated



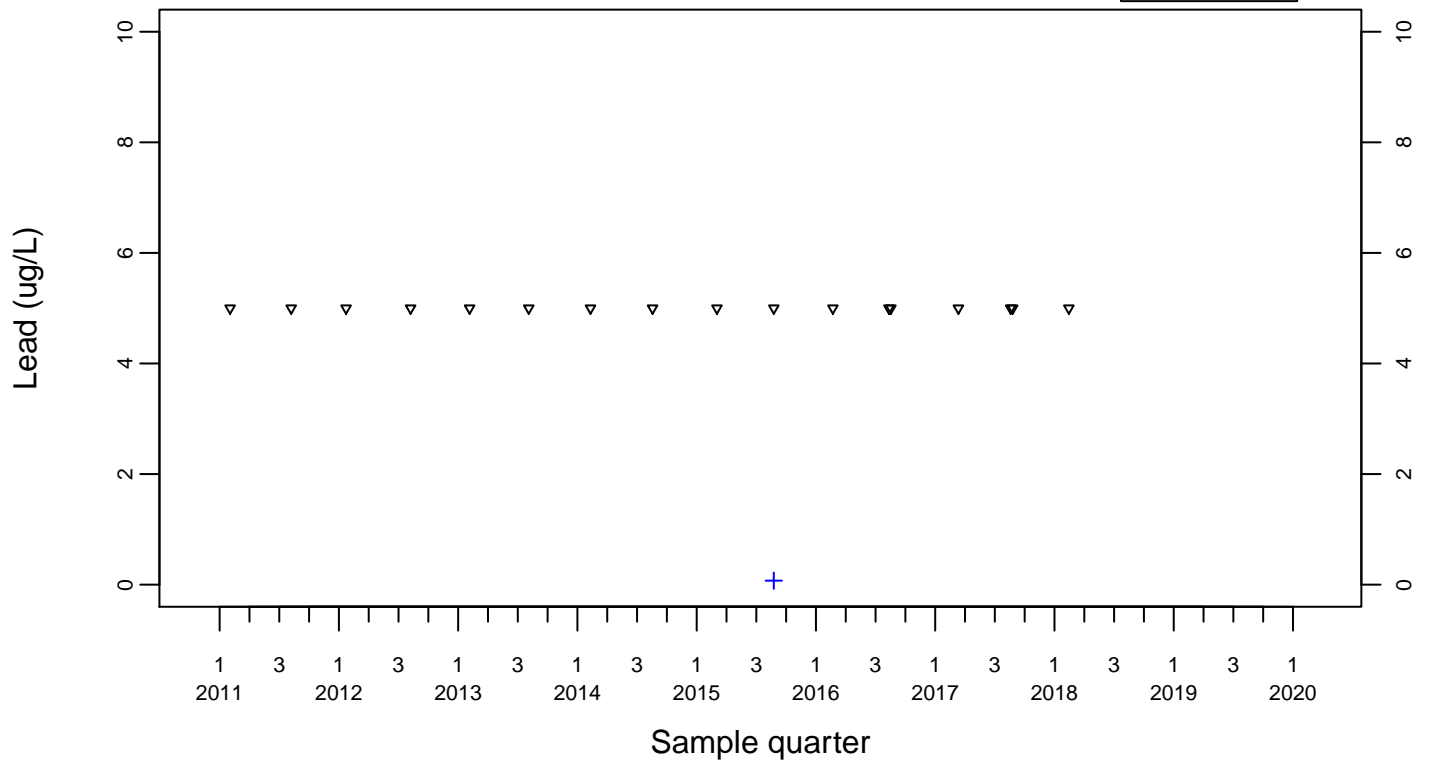
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Lead (ug/L)

Downgradient Monitor Well W-7DS

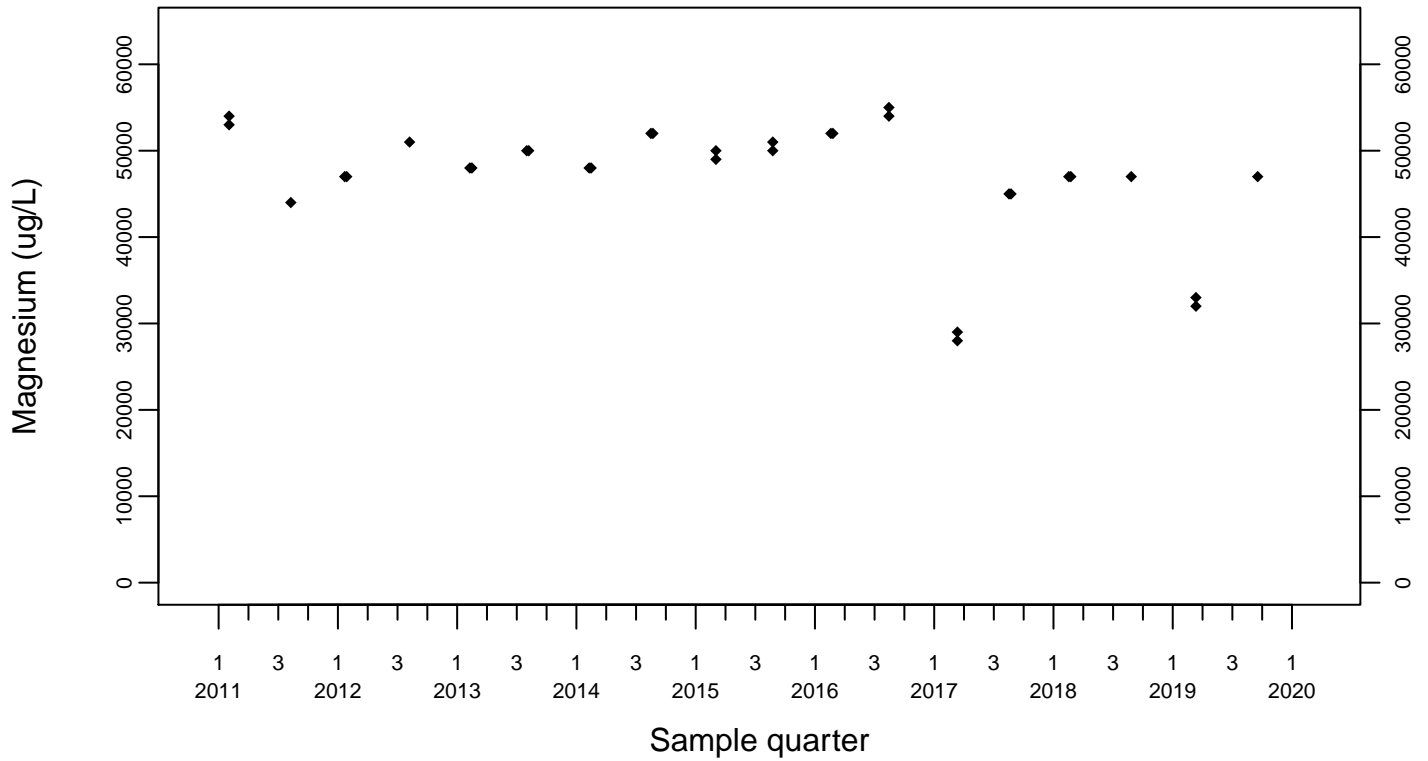
- ◆ Above RL
- ▽ Below RL
- + Estimated



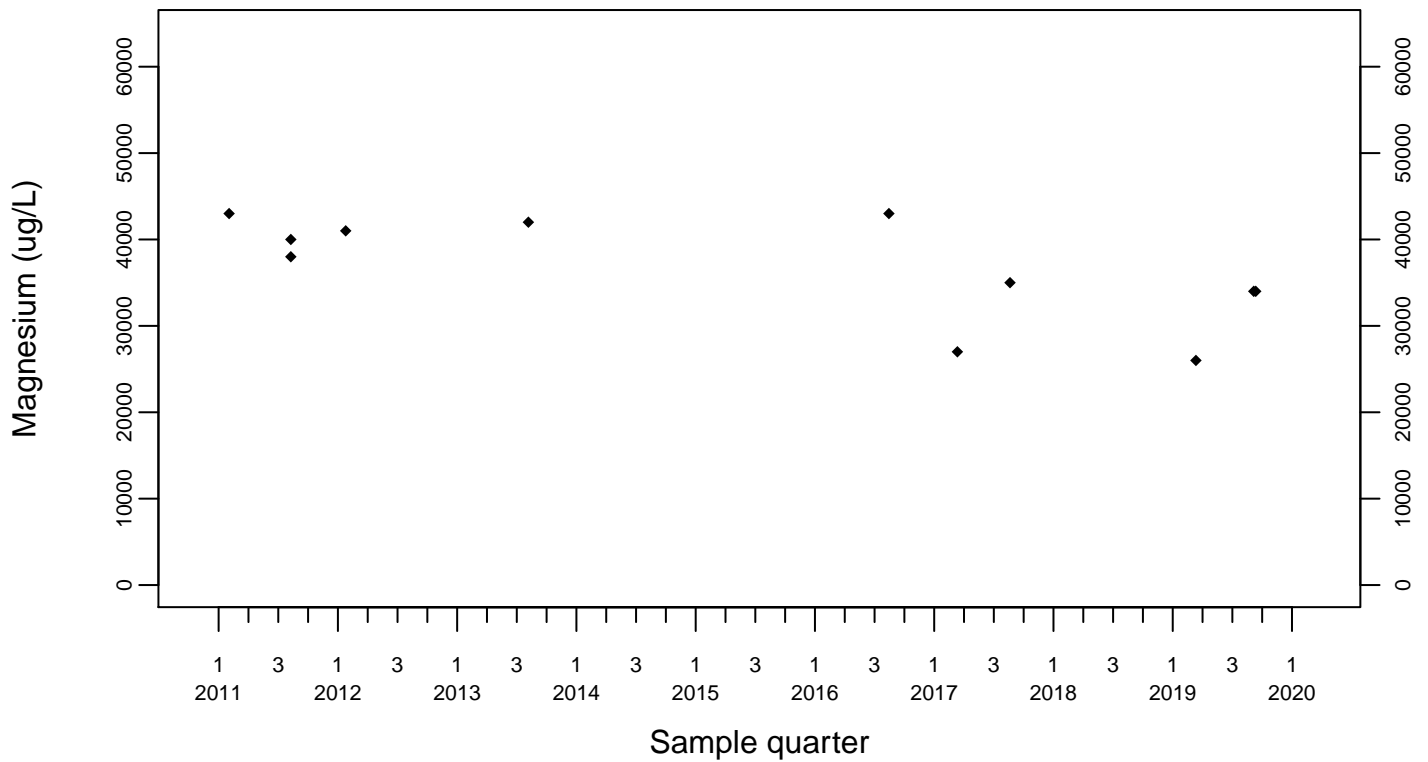
Sewage Ponds Ground Water
Magnesium (ug/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



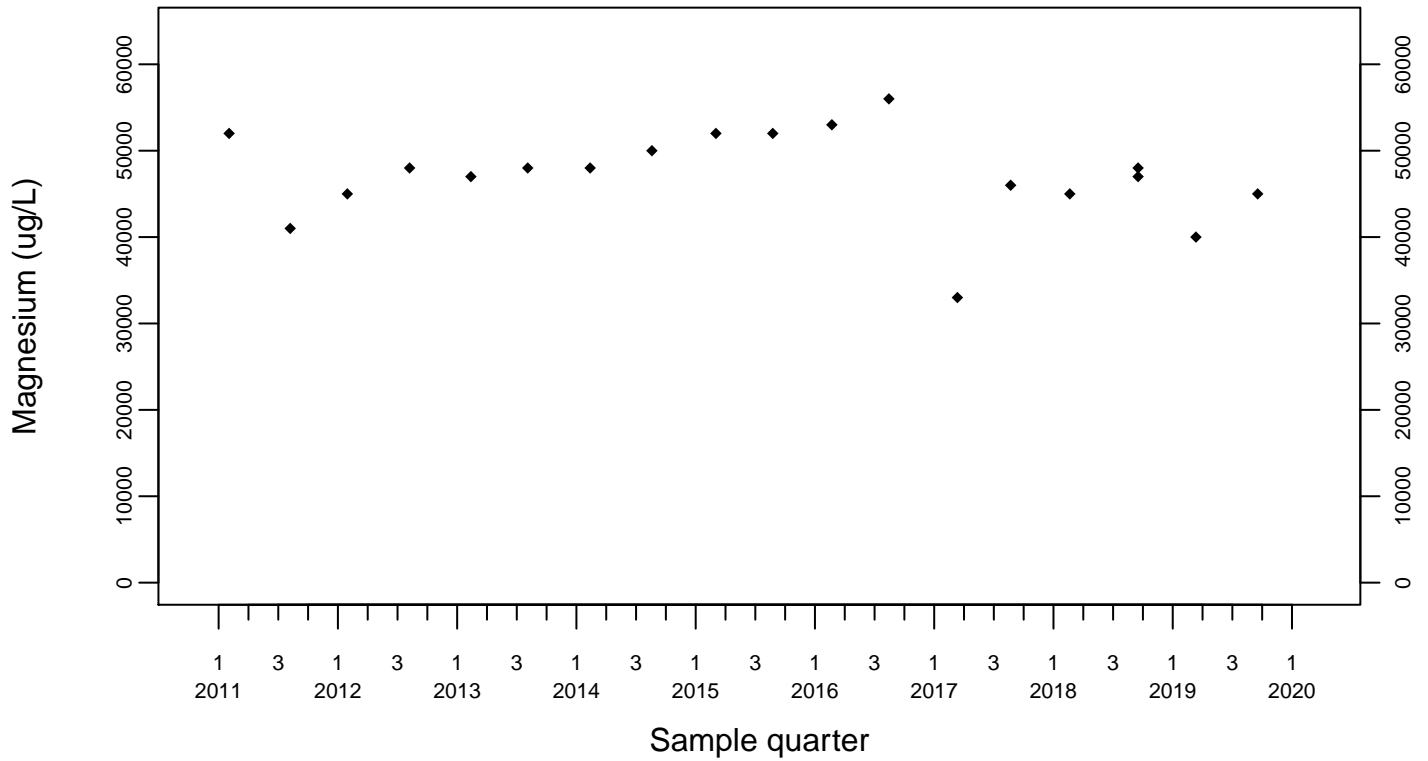
Upgradient Monitor Well W-7PS



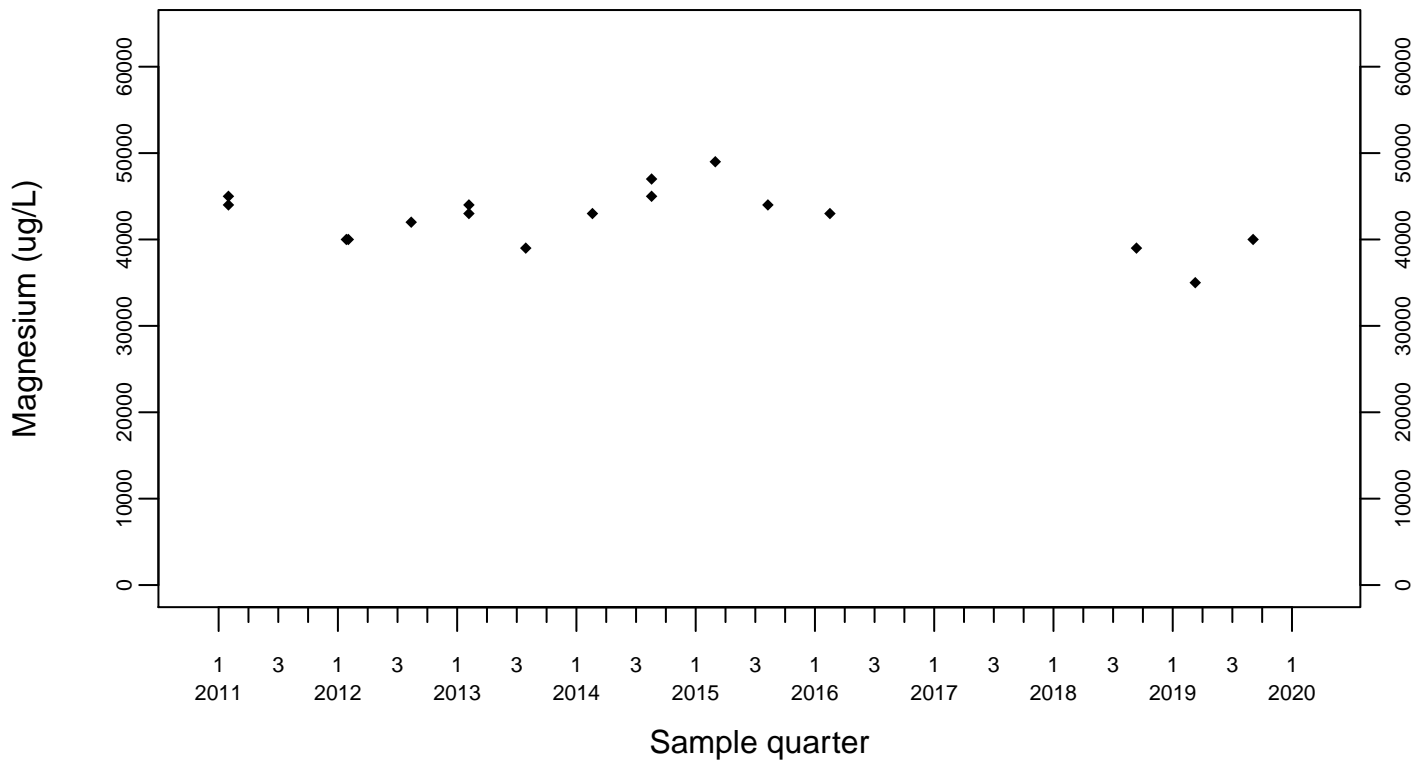
Sewage Ponds Ground Water
Magnesium (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



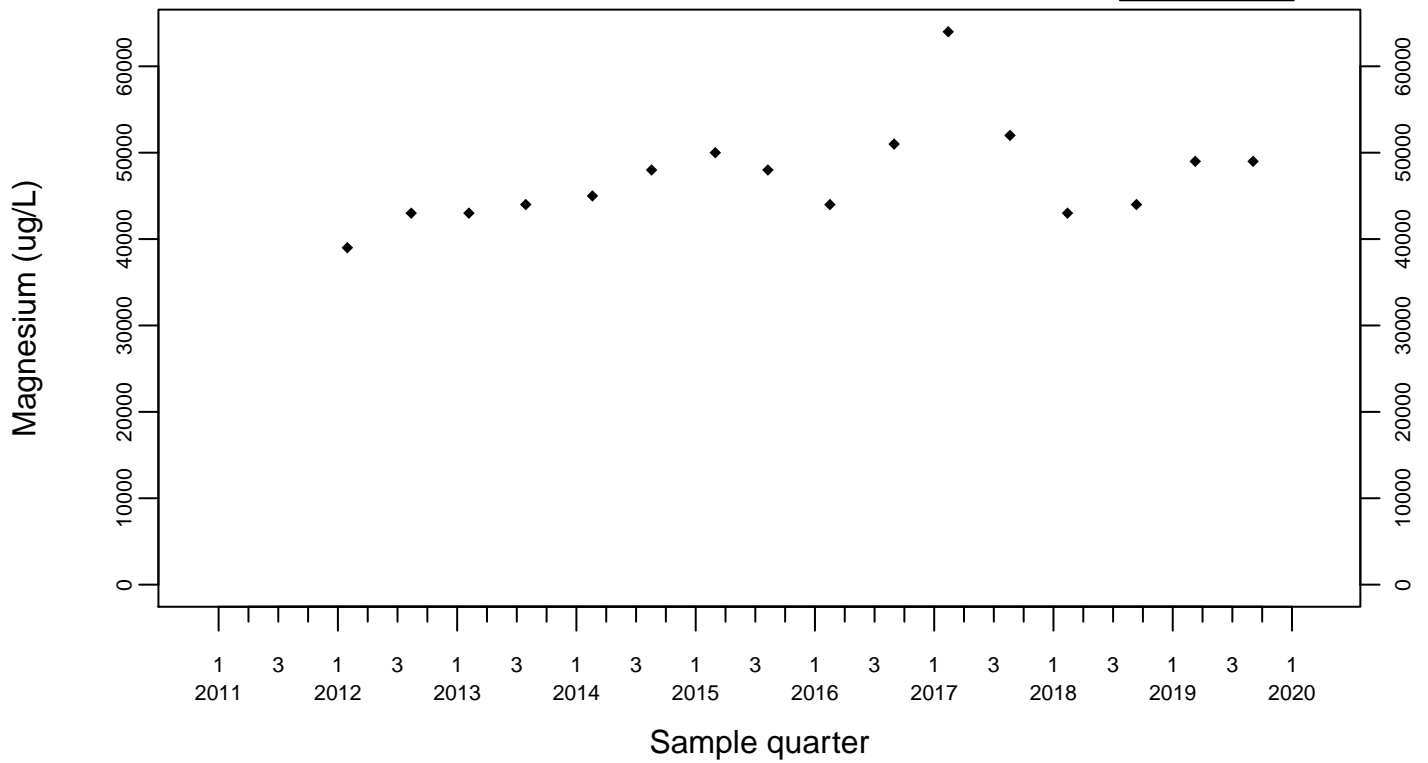
Downgradient Monitor Well W-25N-23



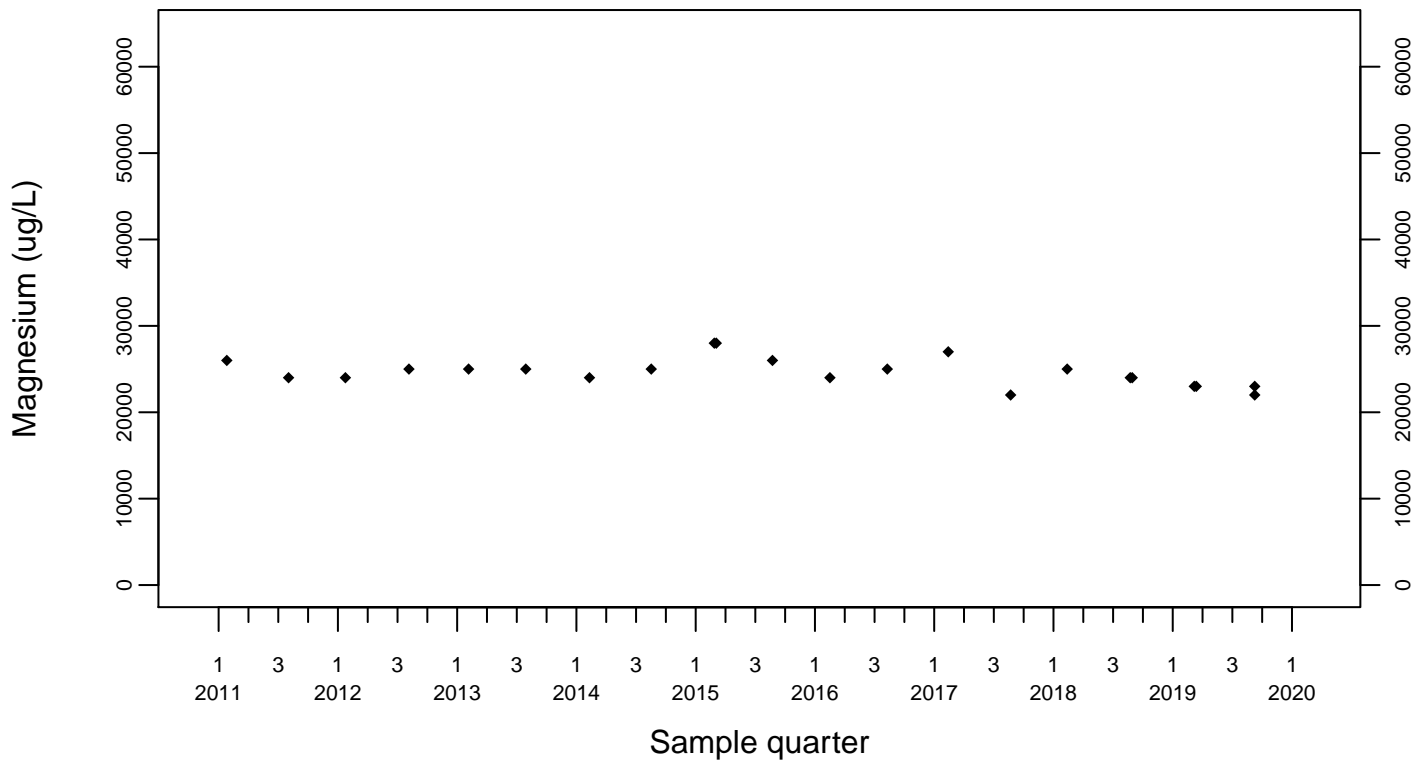
Sewage Ponds Ground Water Magnesium (ug/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



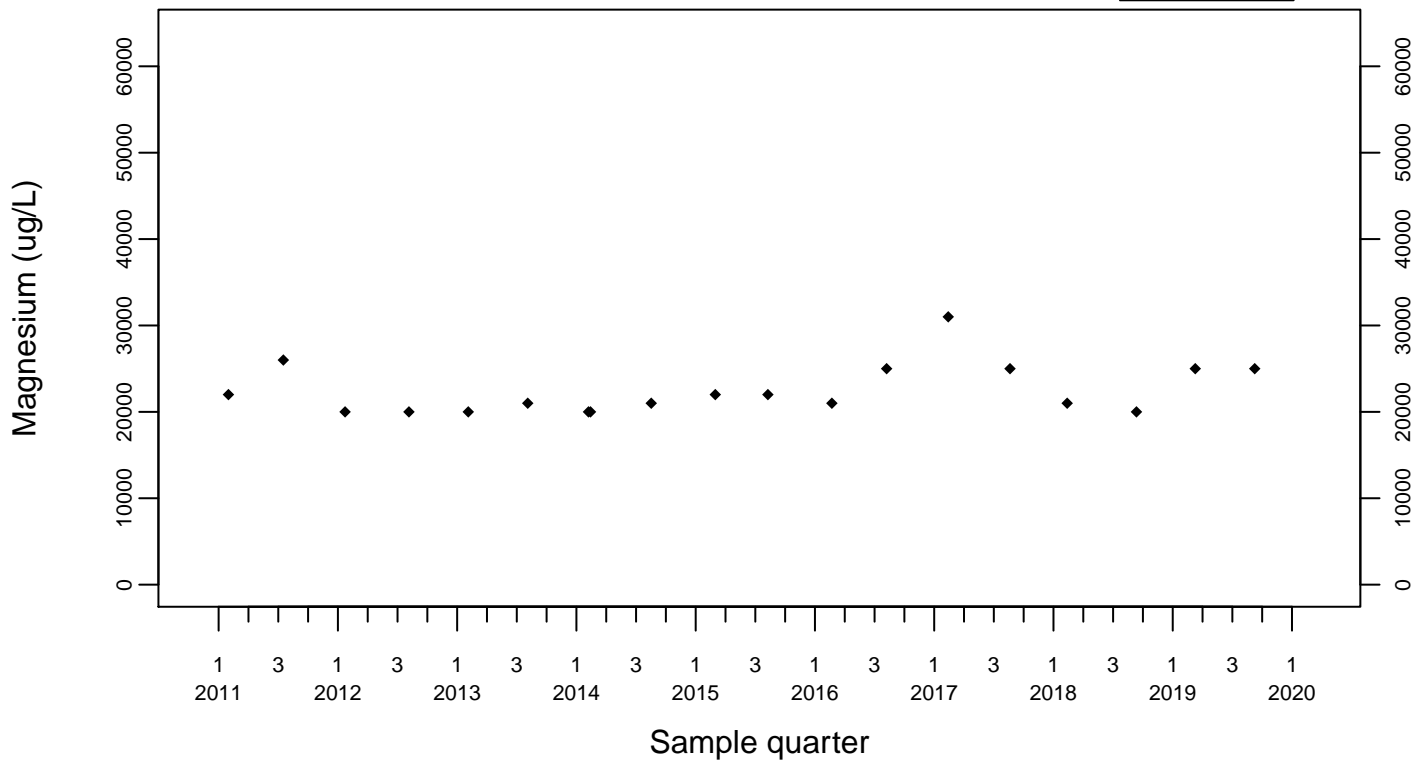
Downgradient Monitor Well W-26R-01



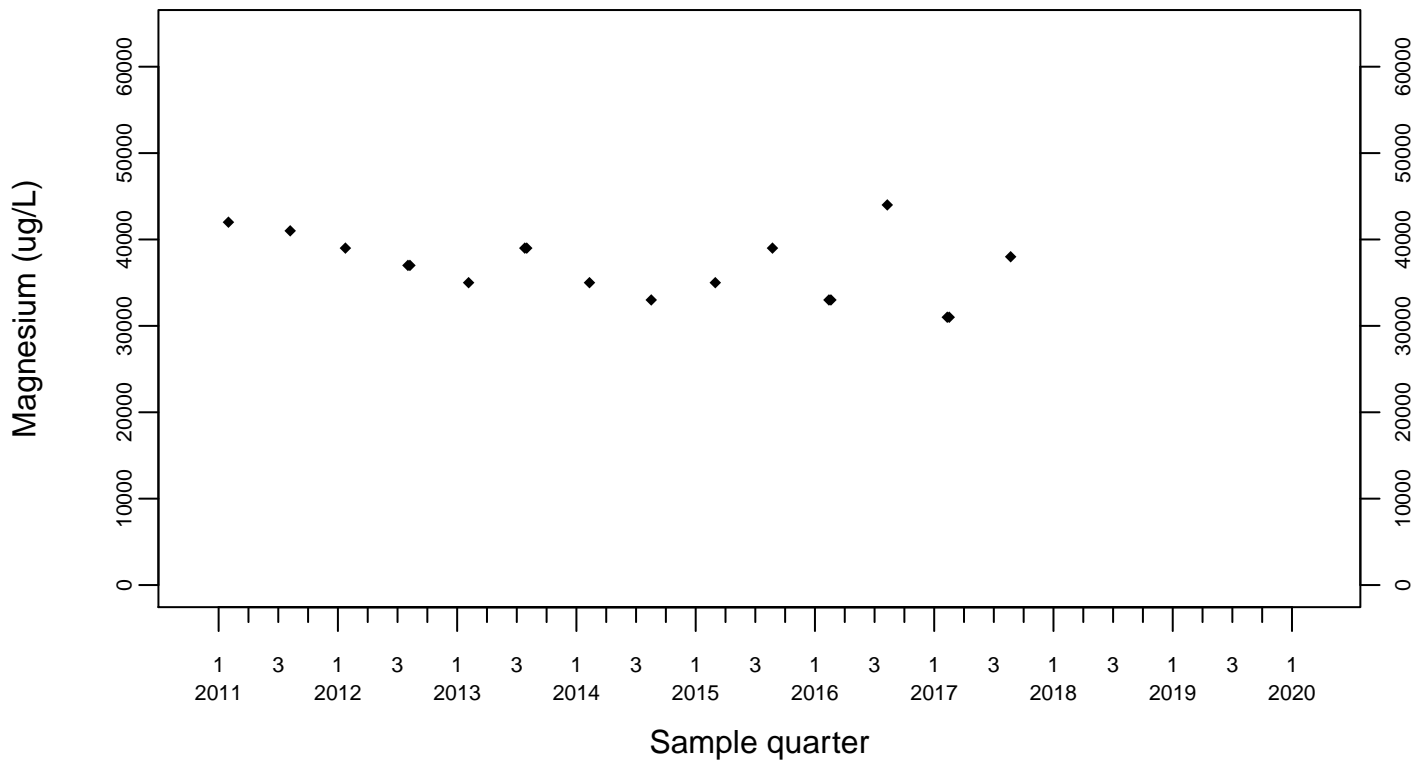
Sewage Ponds Ground Water
Magnesium (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



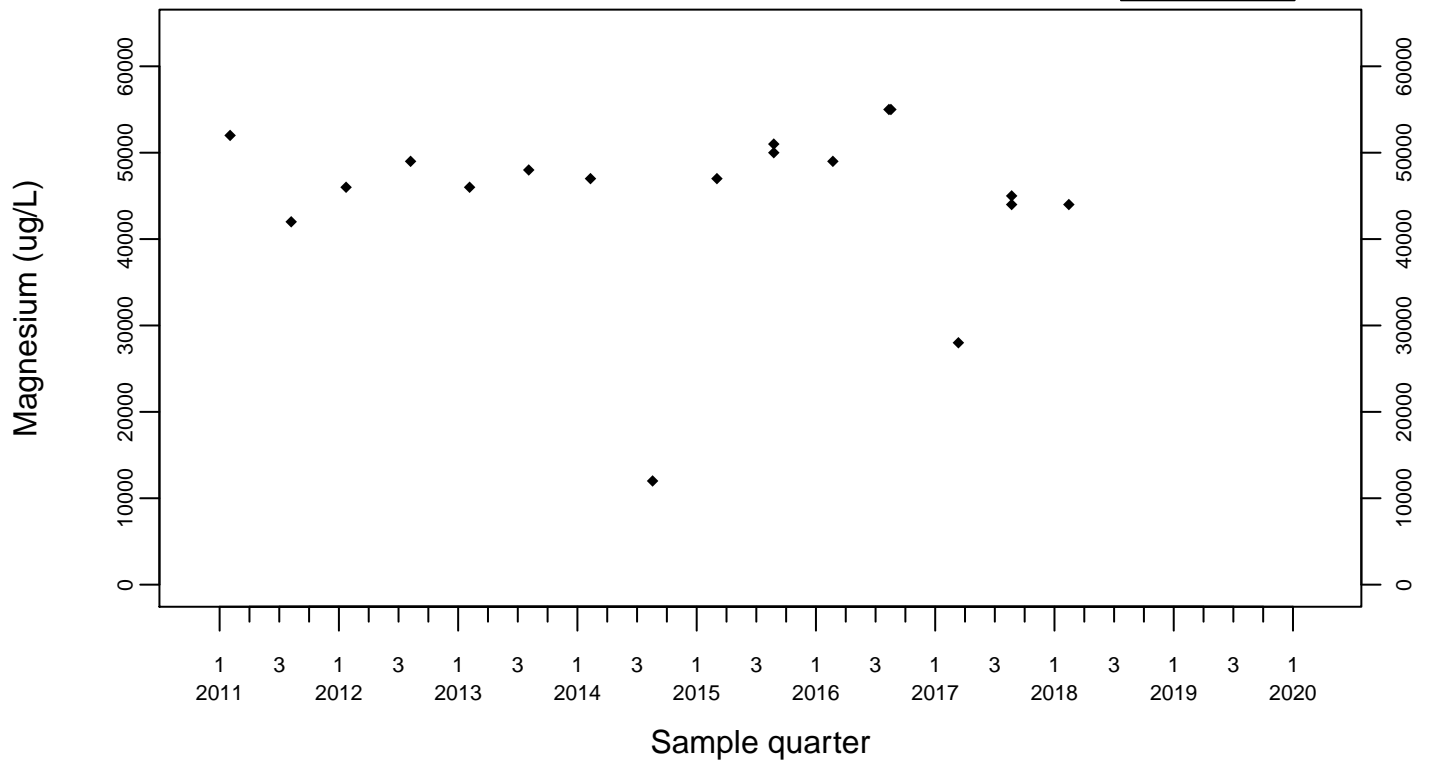
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water Magnesium (ug/L)

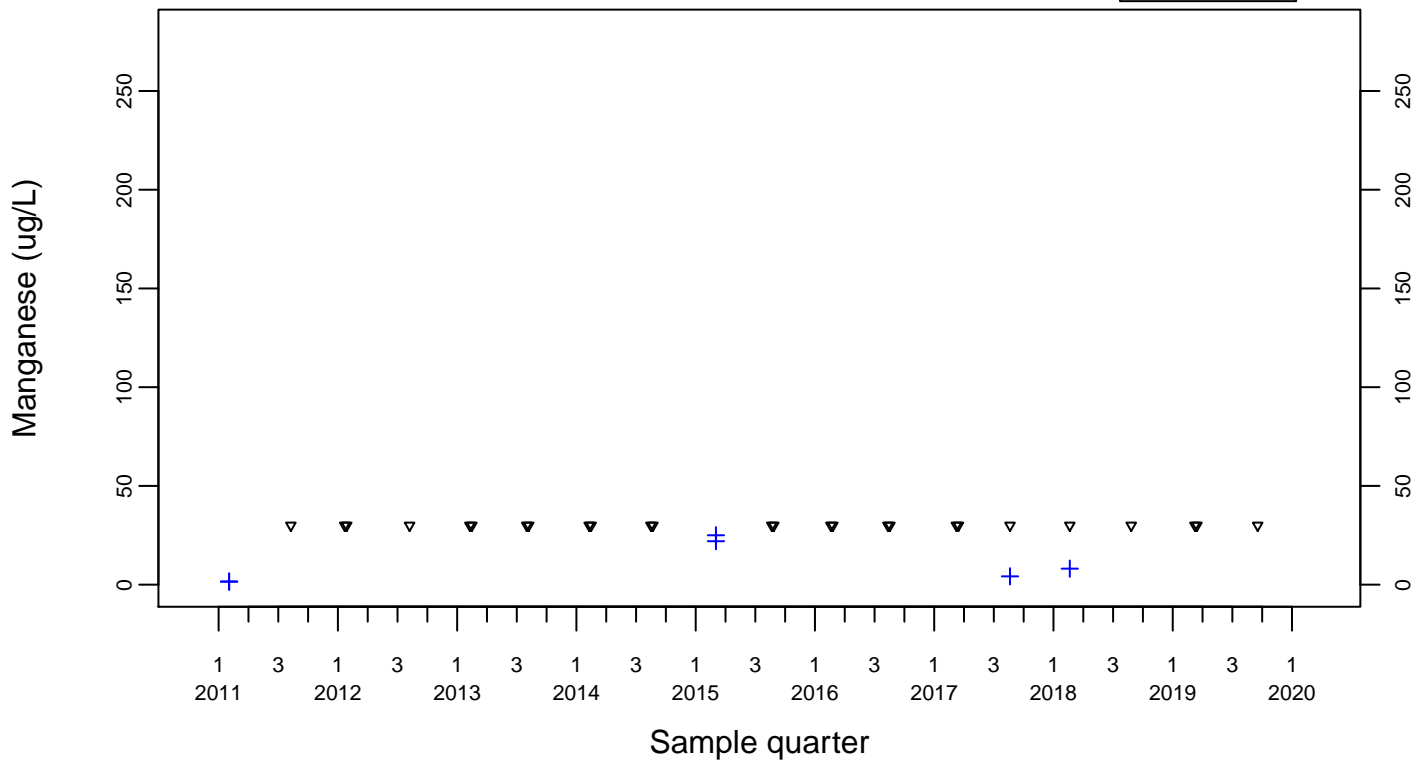
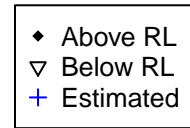
Downgradient Monitor Well W-7DS

◆ Above RL
▽ Below RL

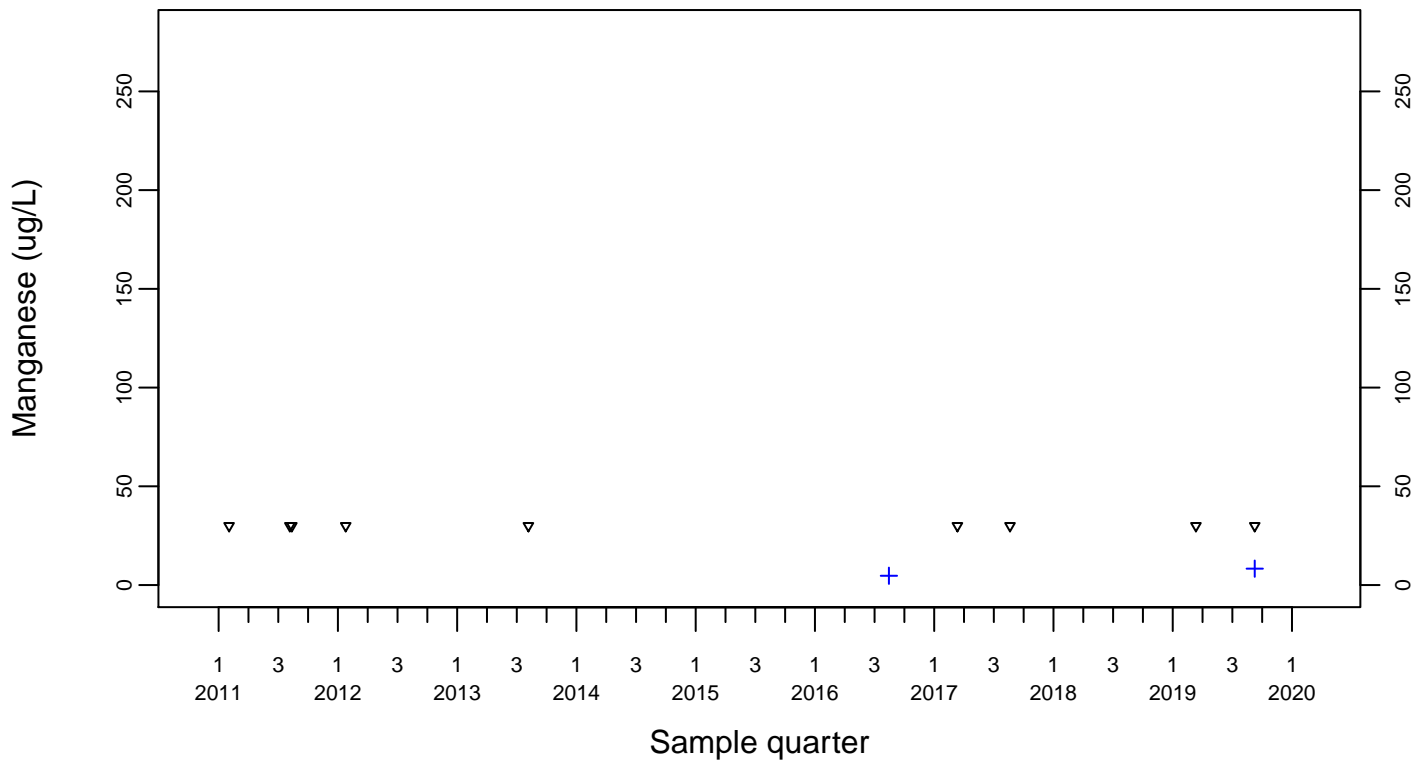


Sewage Ponds Ground Water
Manganese (ug/L)

Upgradient Monitor Well W-7ES



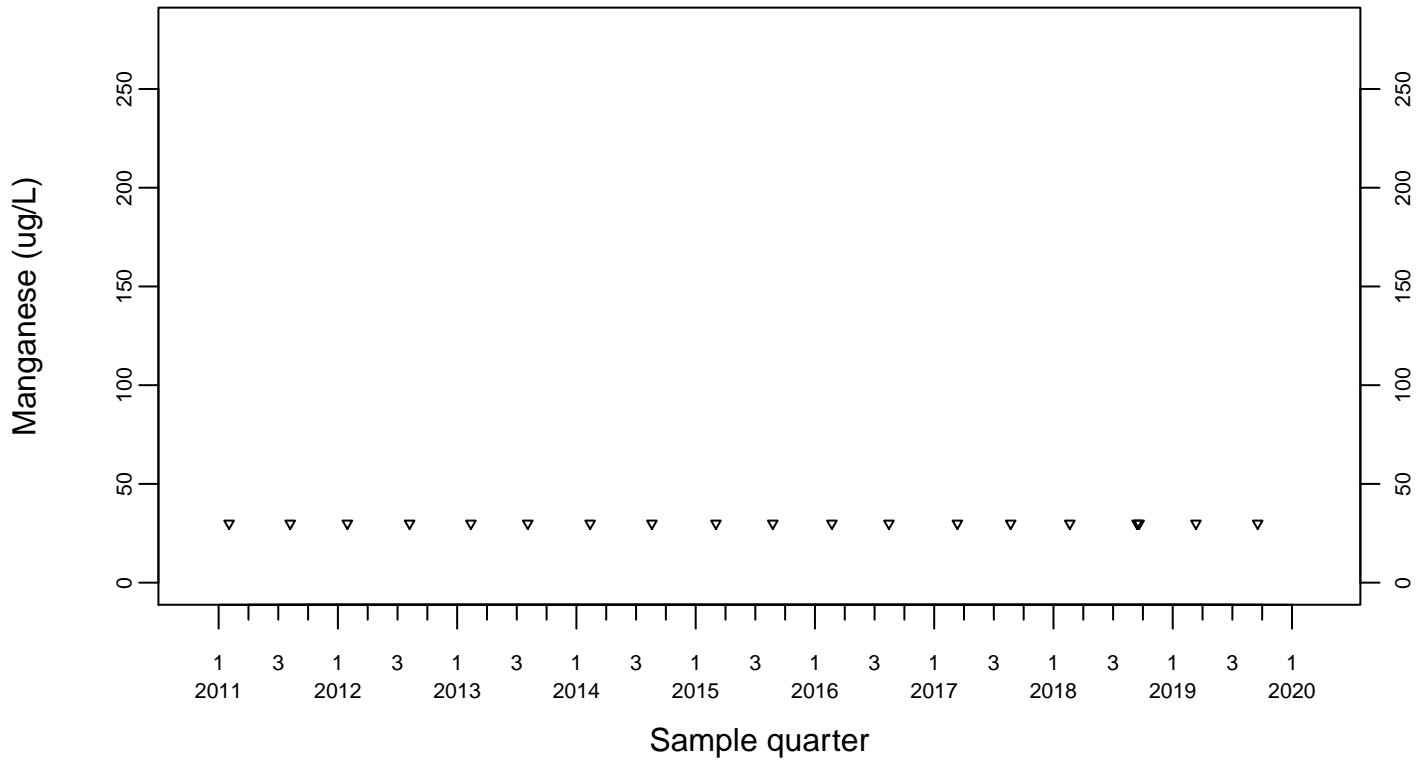
Upgradient Monitor Well W-7PS



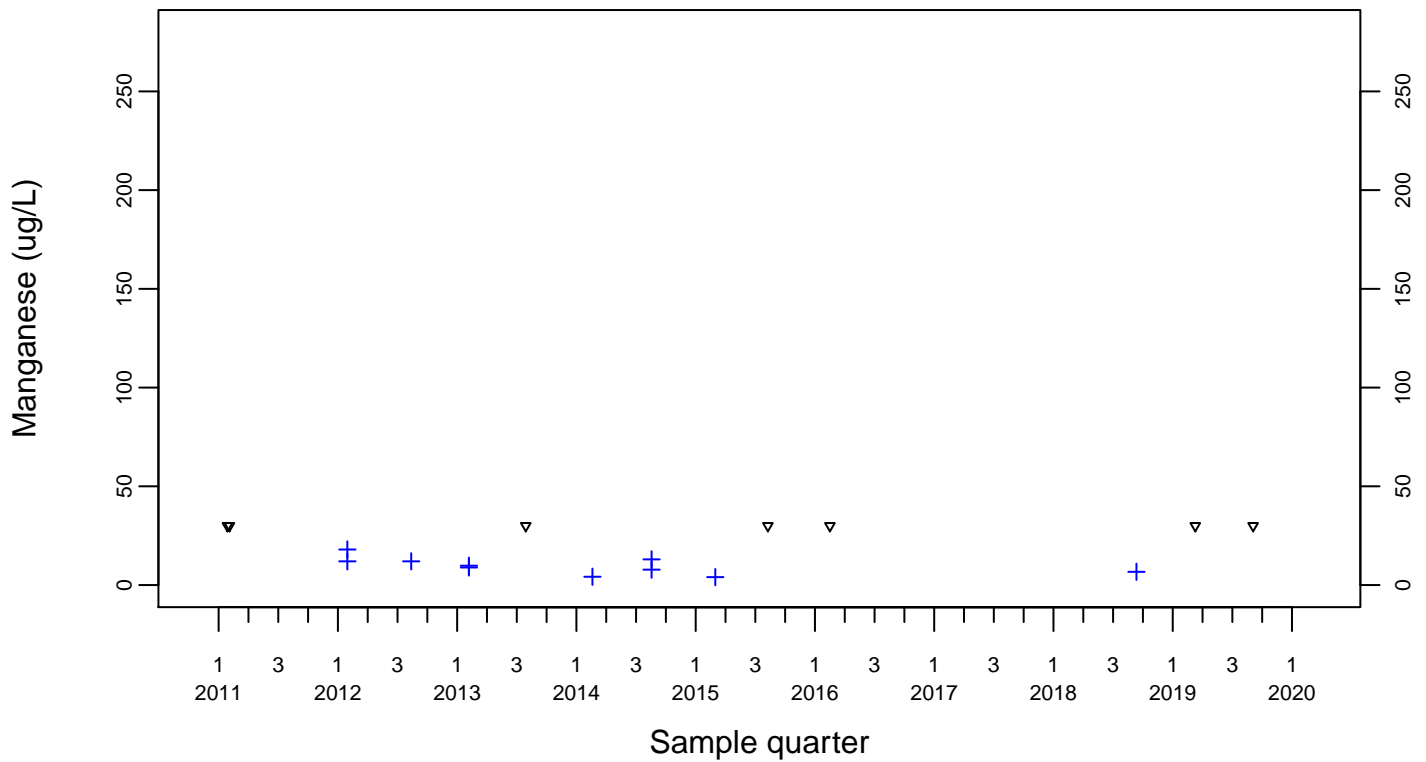
Sewage Ponds Ground Water
Manganese (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



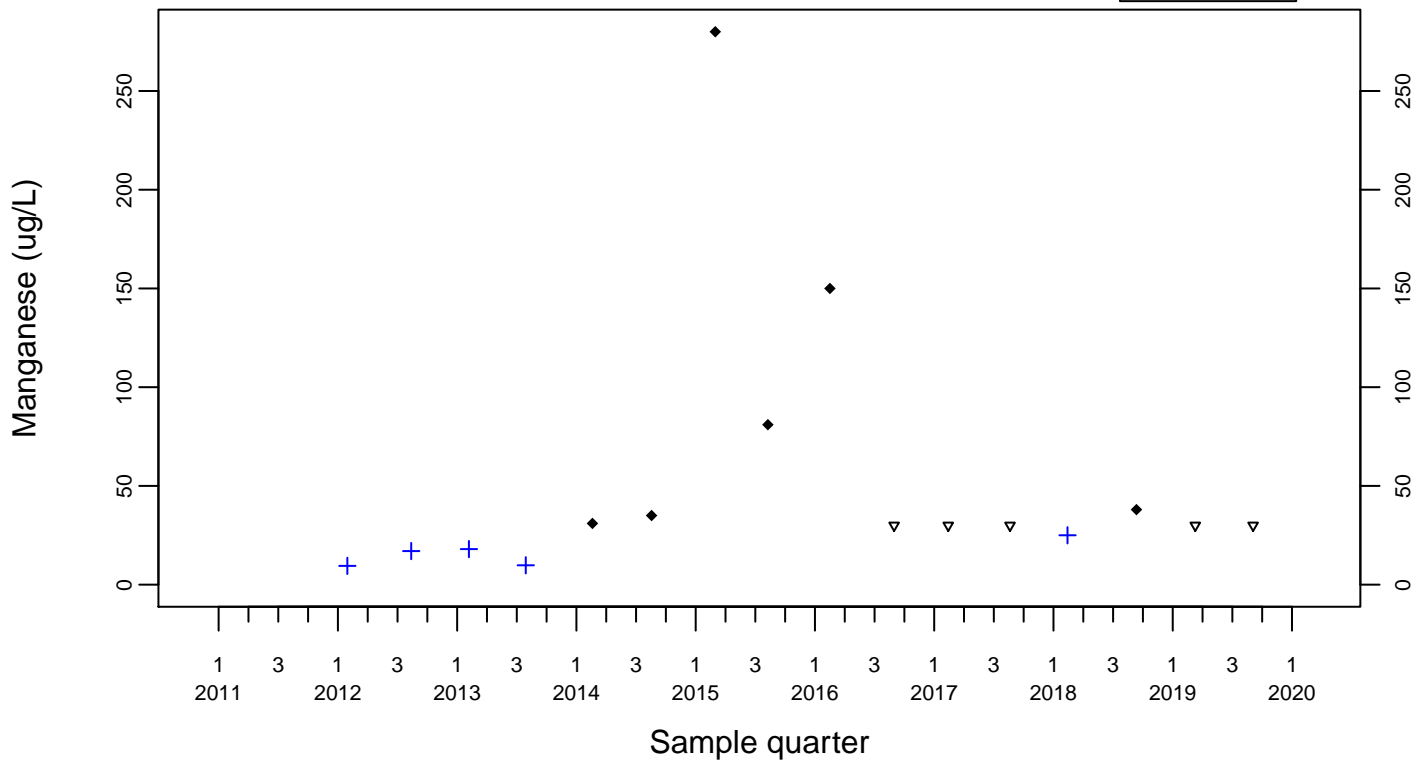
Downgradient Monitor Well W-25N-23



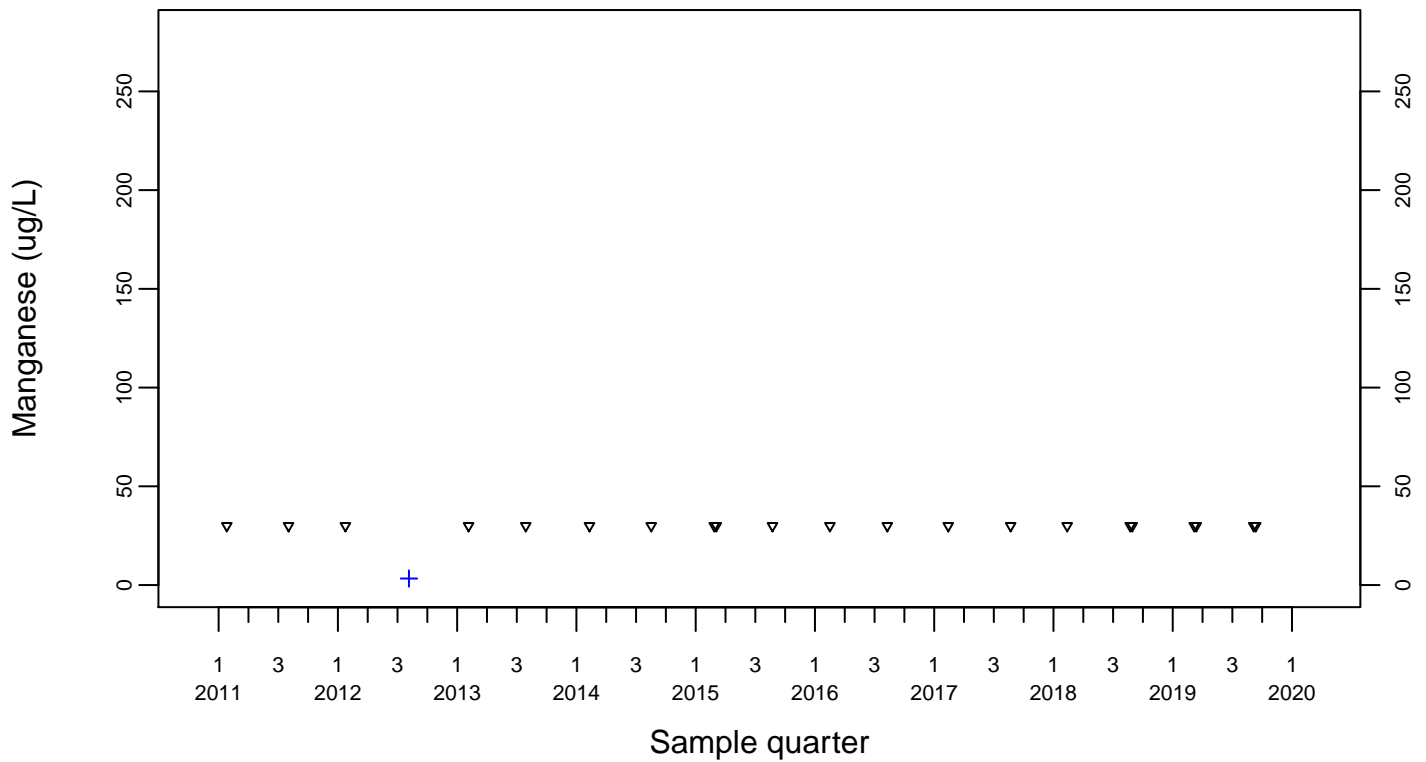
Sewage Ponds Ground Water
Manganese (ug/L)

Downgradient Monitor Well W-25N-22

- ◆ Above RL
- ▽ Below RL
- + Estimated



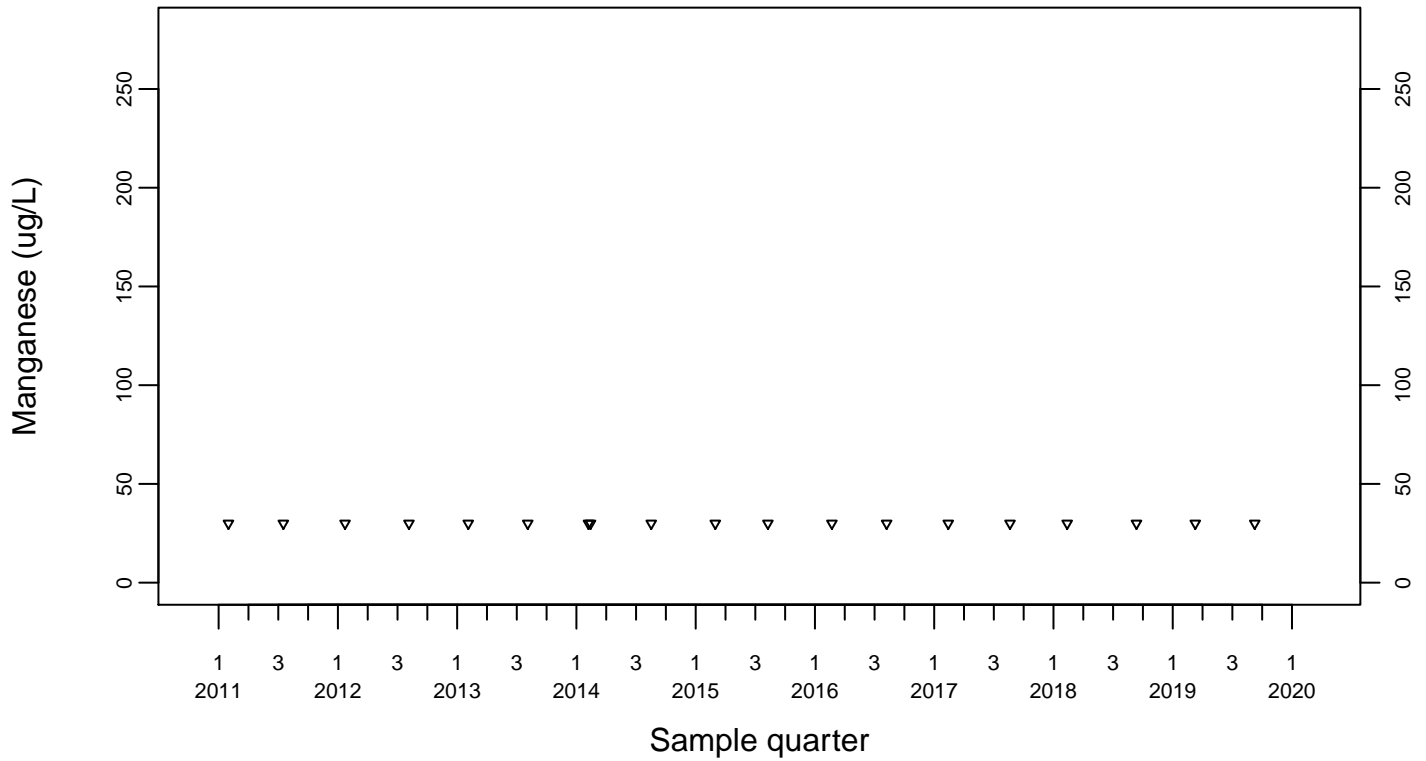
Downgradient Monitor Well W-26R-01



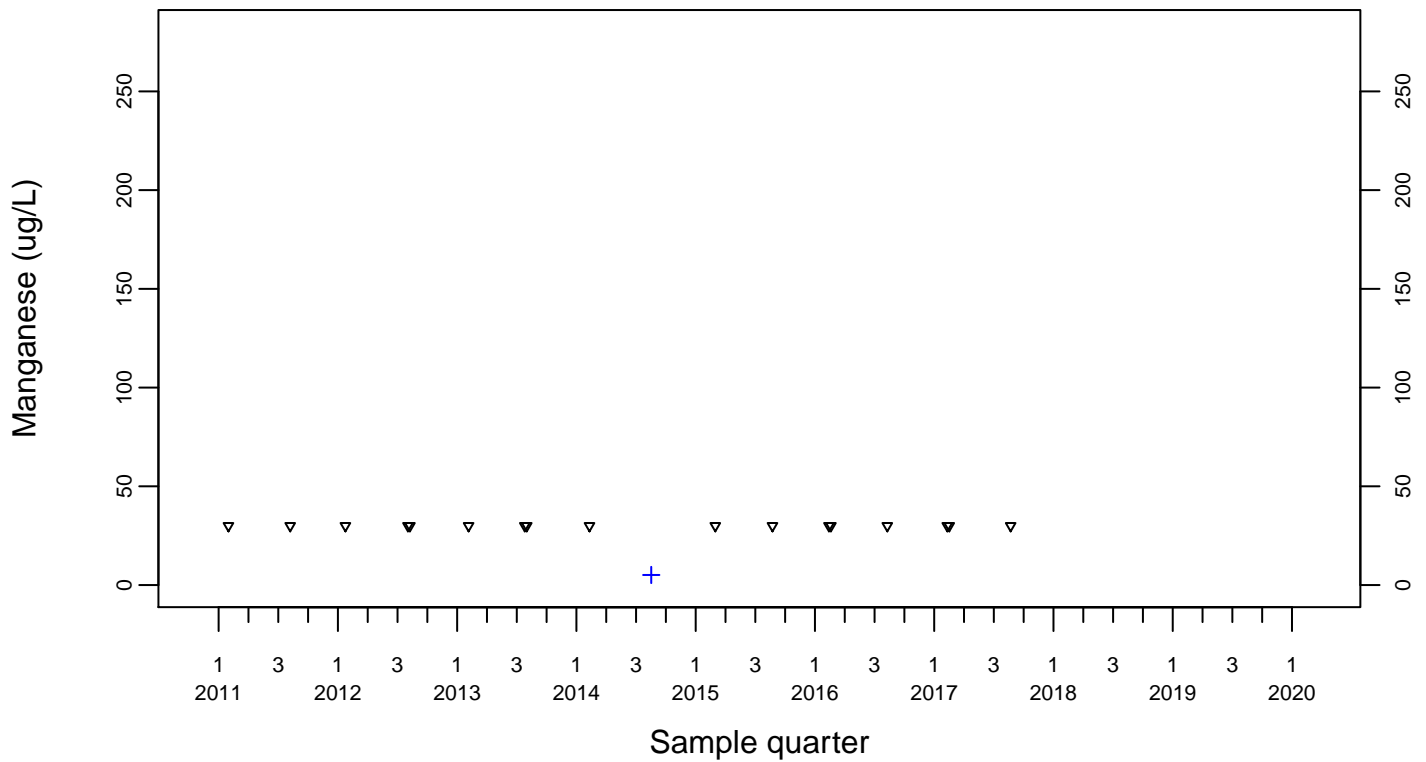
Sewage Ponds Ground Water
Manganese (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL

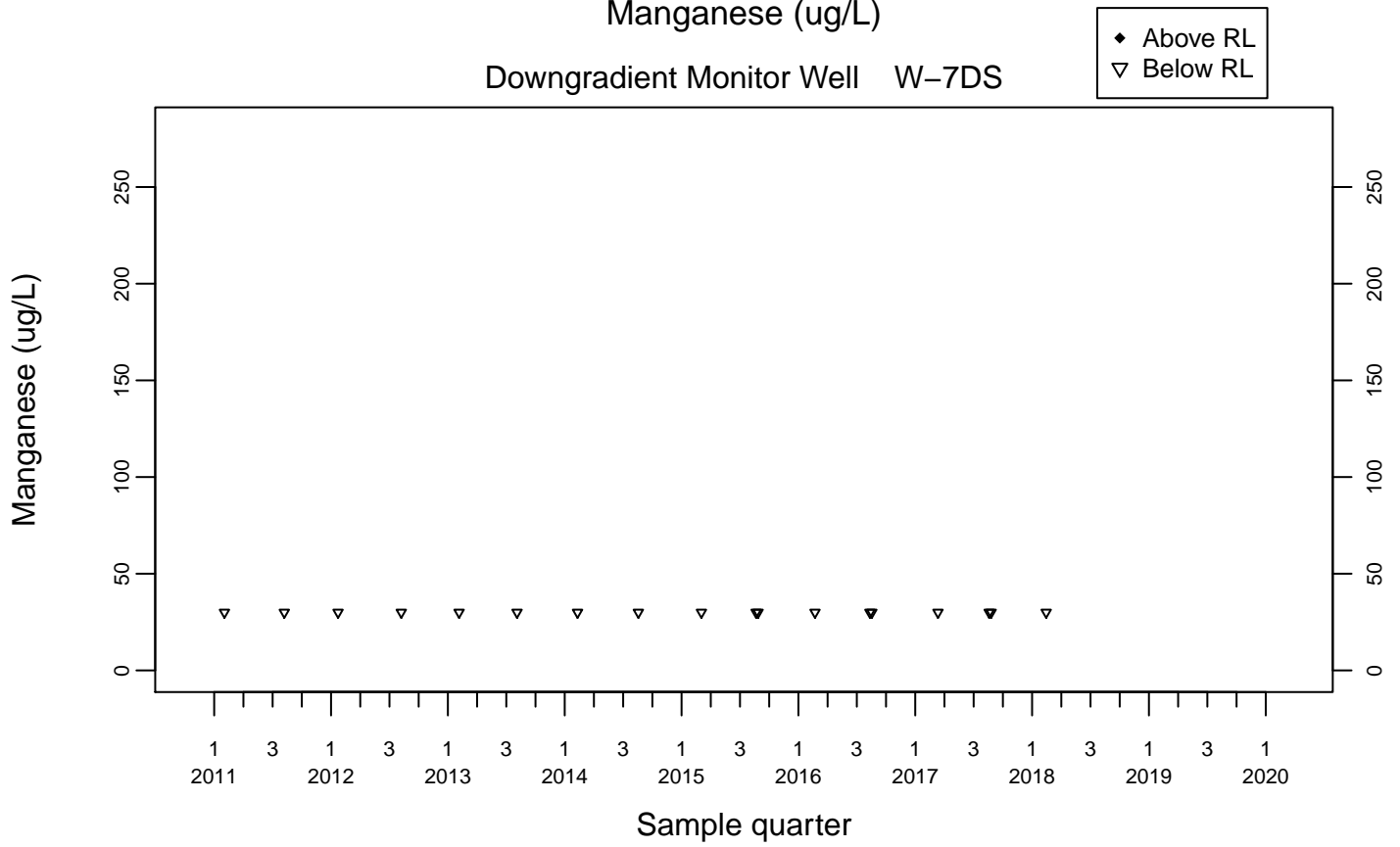


Downgradient Monitor Well W-26R-11



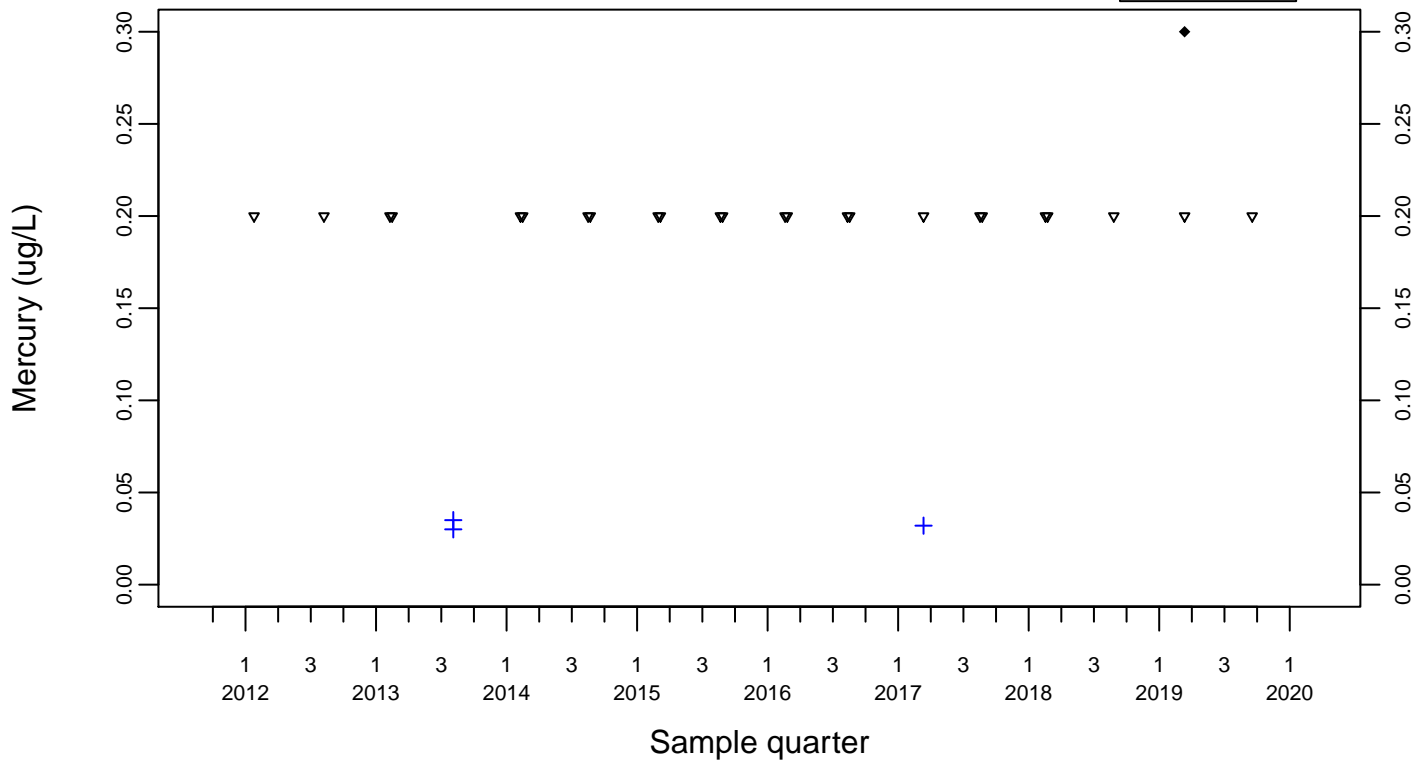
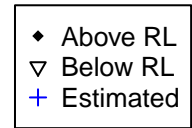
Sewage Ponds Ground Water
Manganese (ug/L)

Downgradient Monitor Well W-7DS

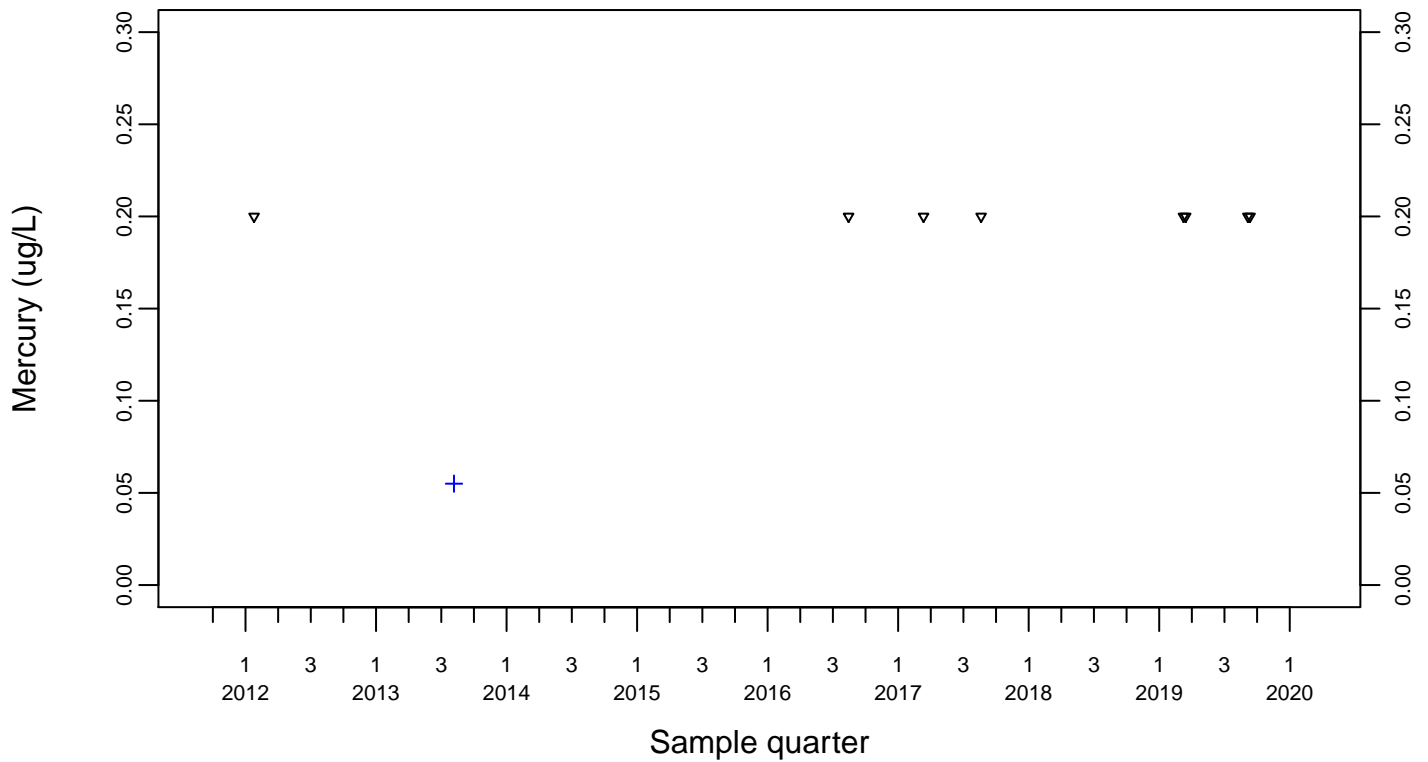


Sewage Ponds Ground Water
Mercury (ug/L)

Upgradient Monitor Well W-7ES



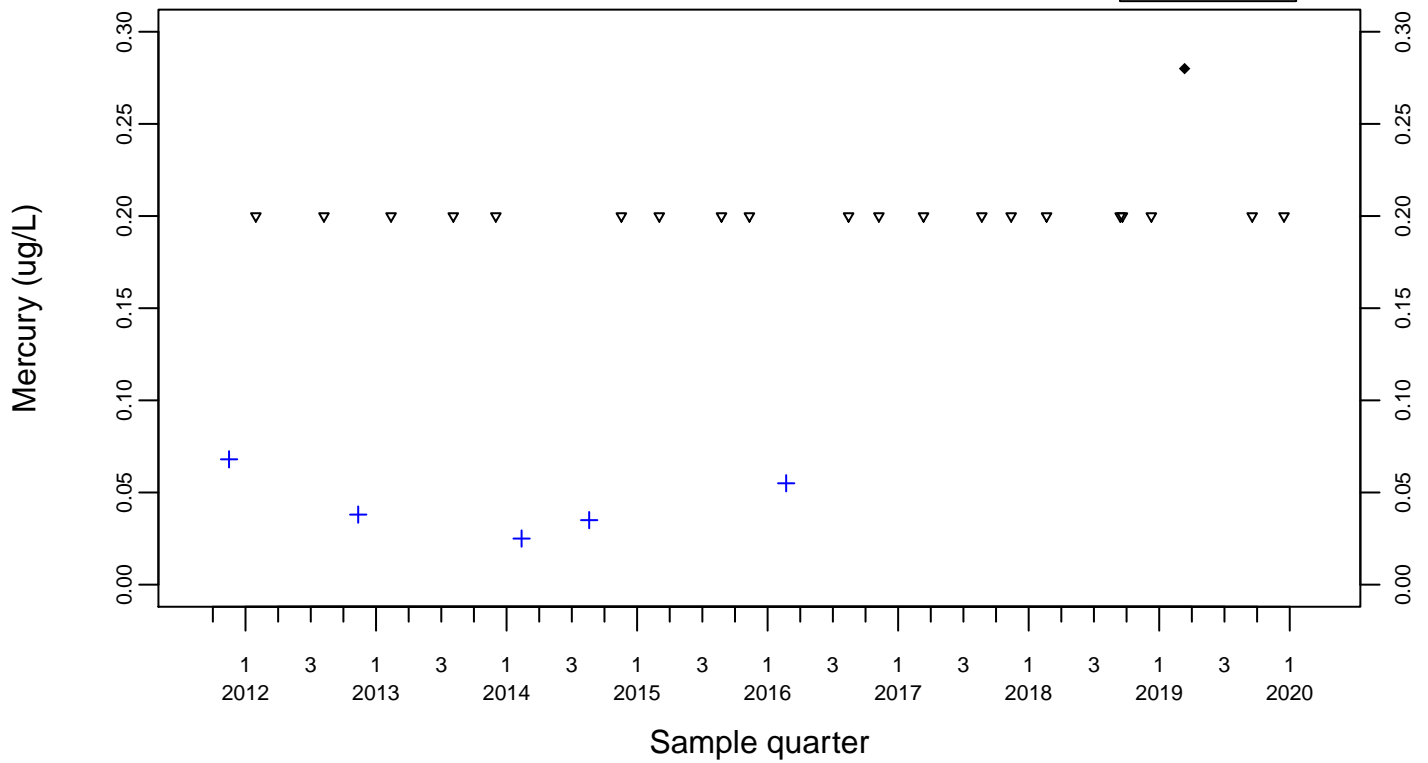
Upgradient Monitor Well W-7PS



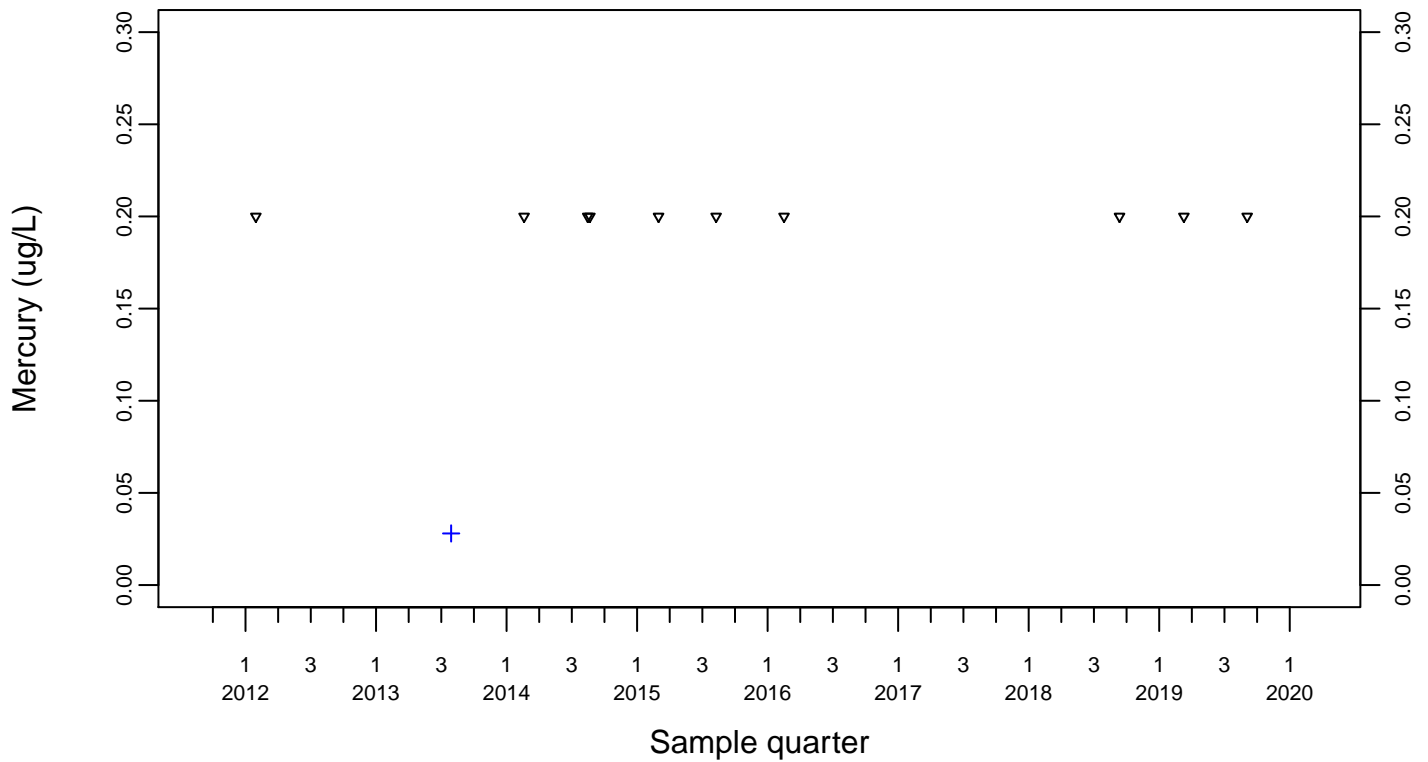
Sewage Ponds Ground Water Mercury (ug/L)

Crossgradient Monitor Well W-35A-04

- ◆ Above RL
- ▽ Below RL
- + Estimated



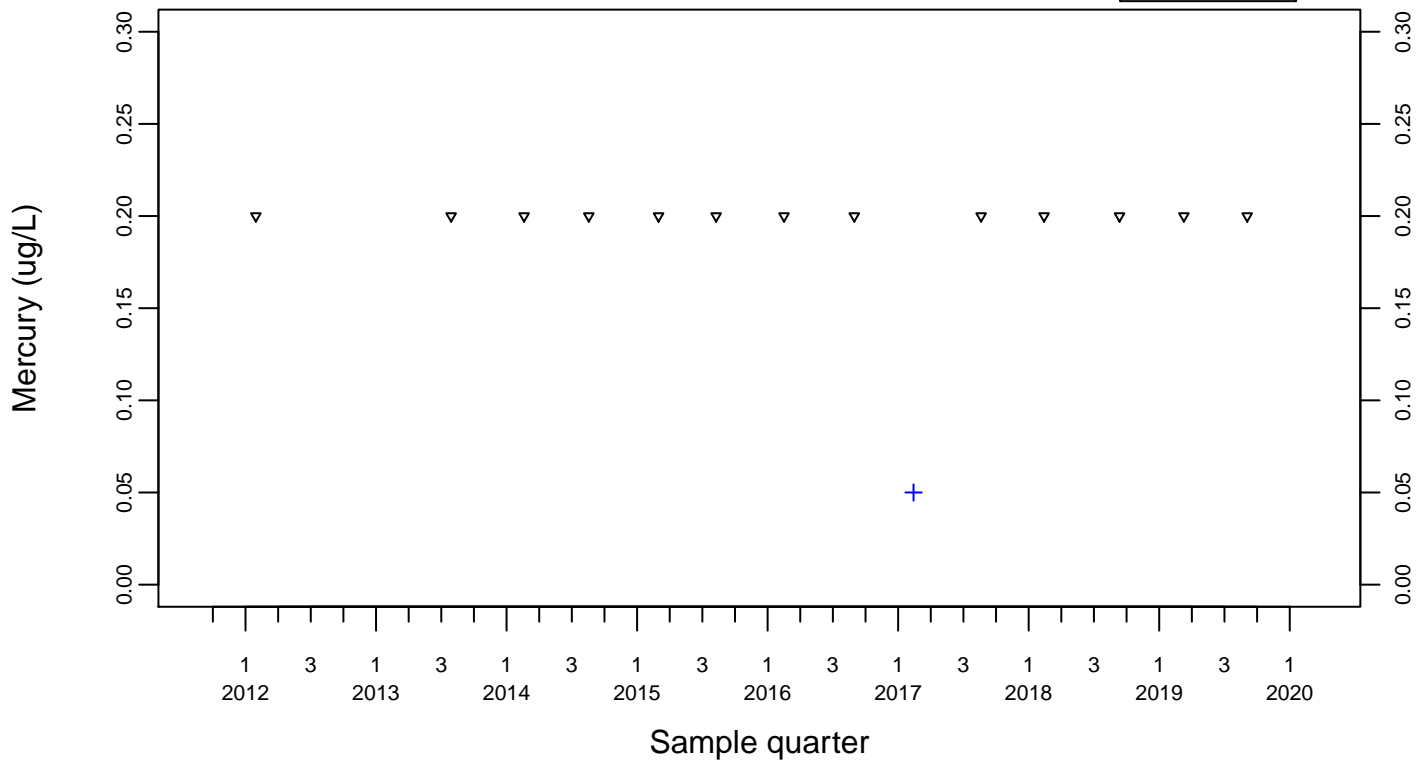
Downgradient Monitor Well W-25N-23



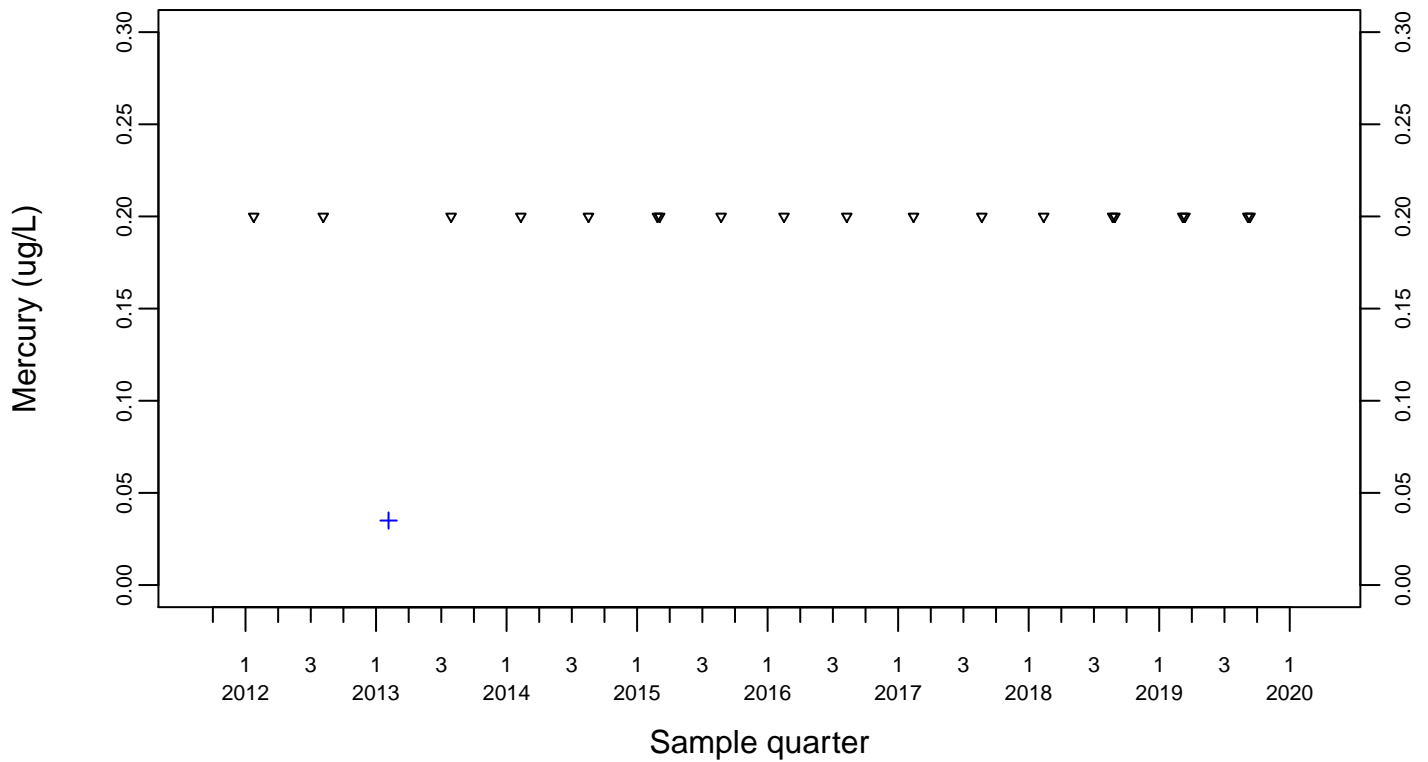
Sewage Ponds Ground Water
Mercury (ug/L)

Downgradient Monitor Well W-25N-22

- ◆ Above RL
- ▽ Below RL
- + Estimated



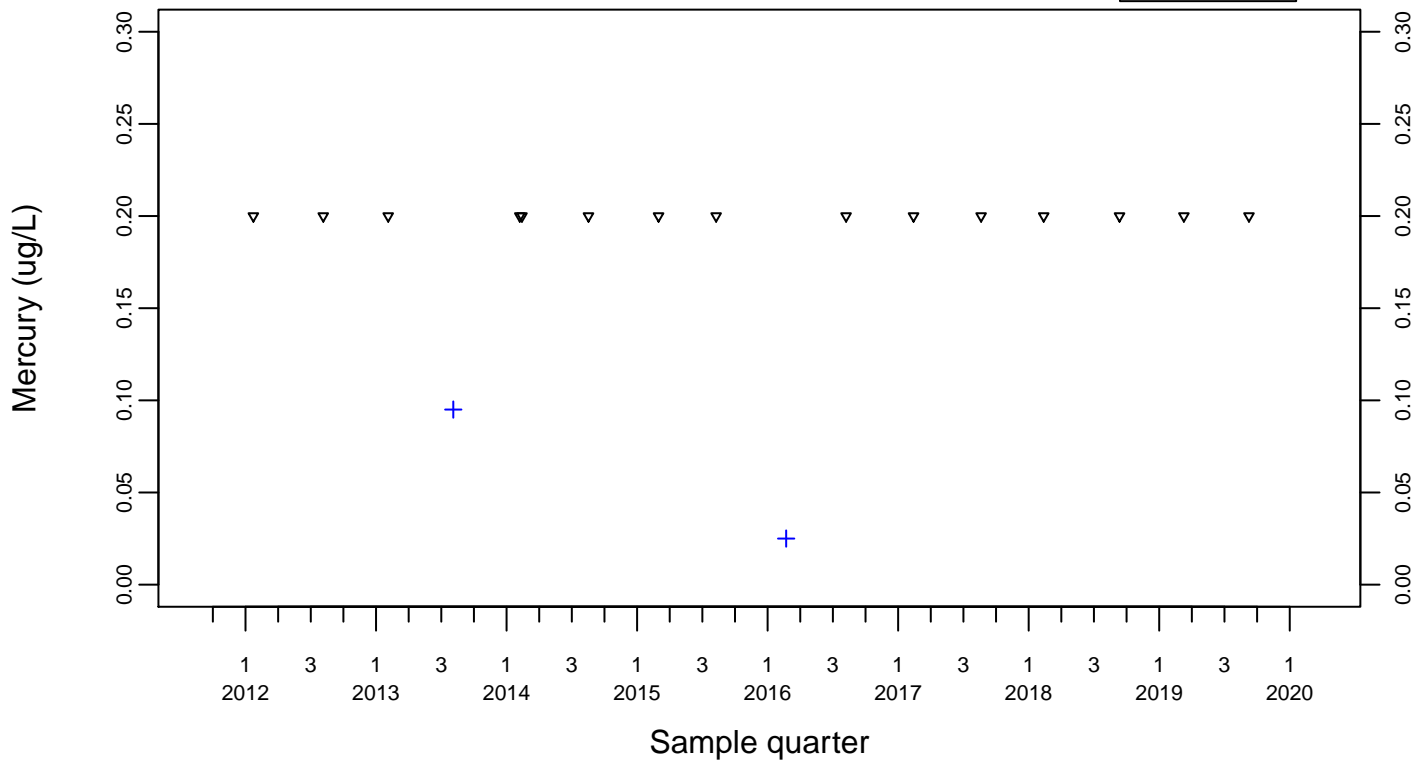
Downgradient Monitor Well W-26R-01



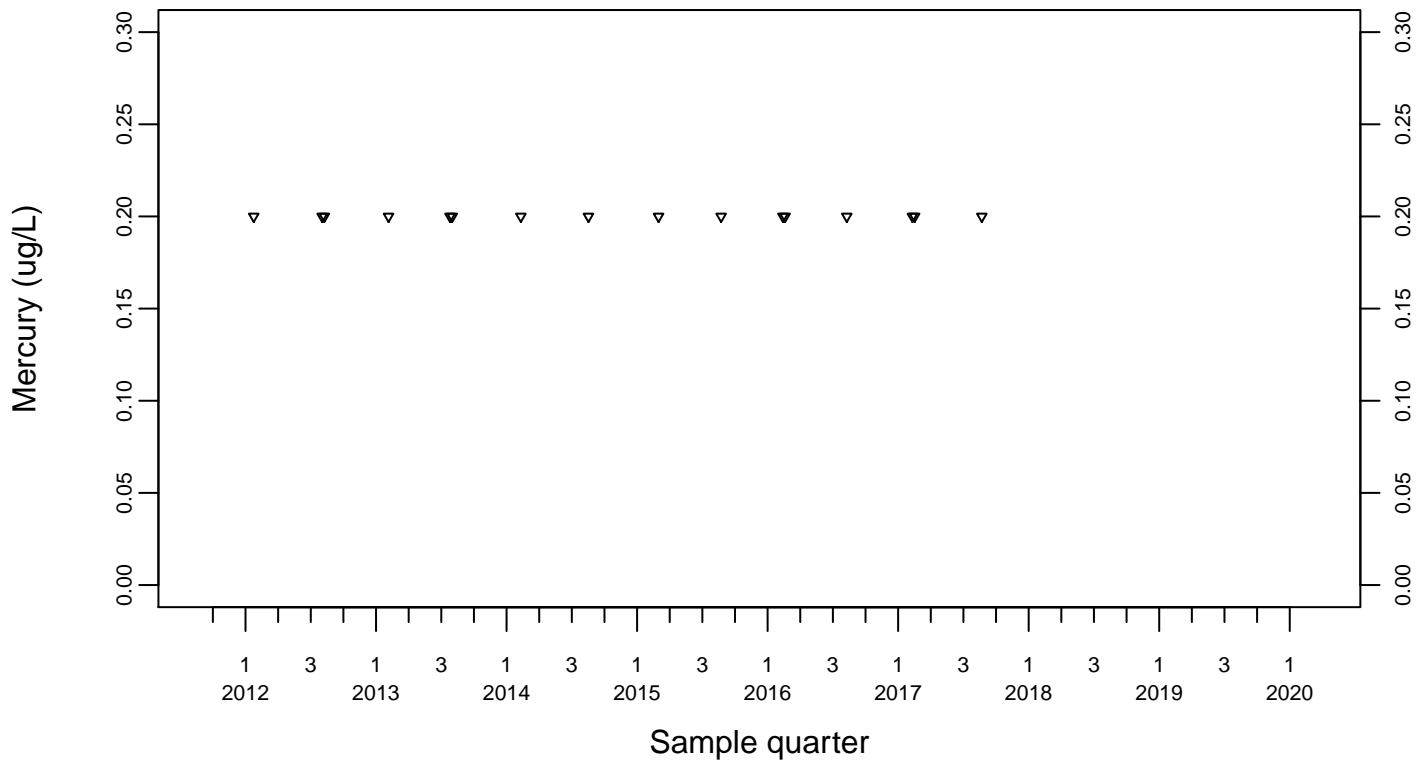
Sewage Ponds Ground Water
Mercury (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated

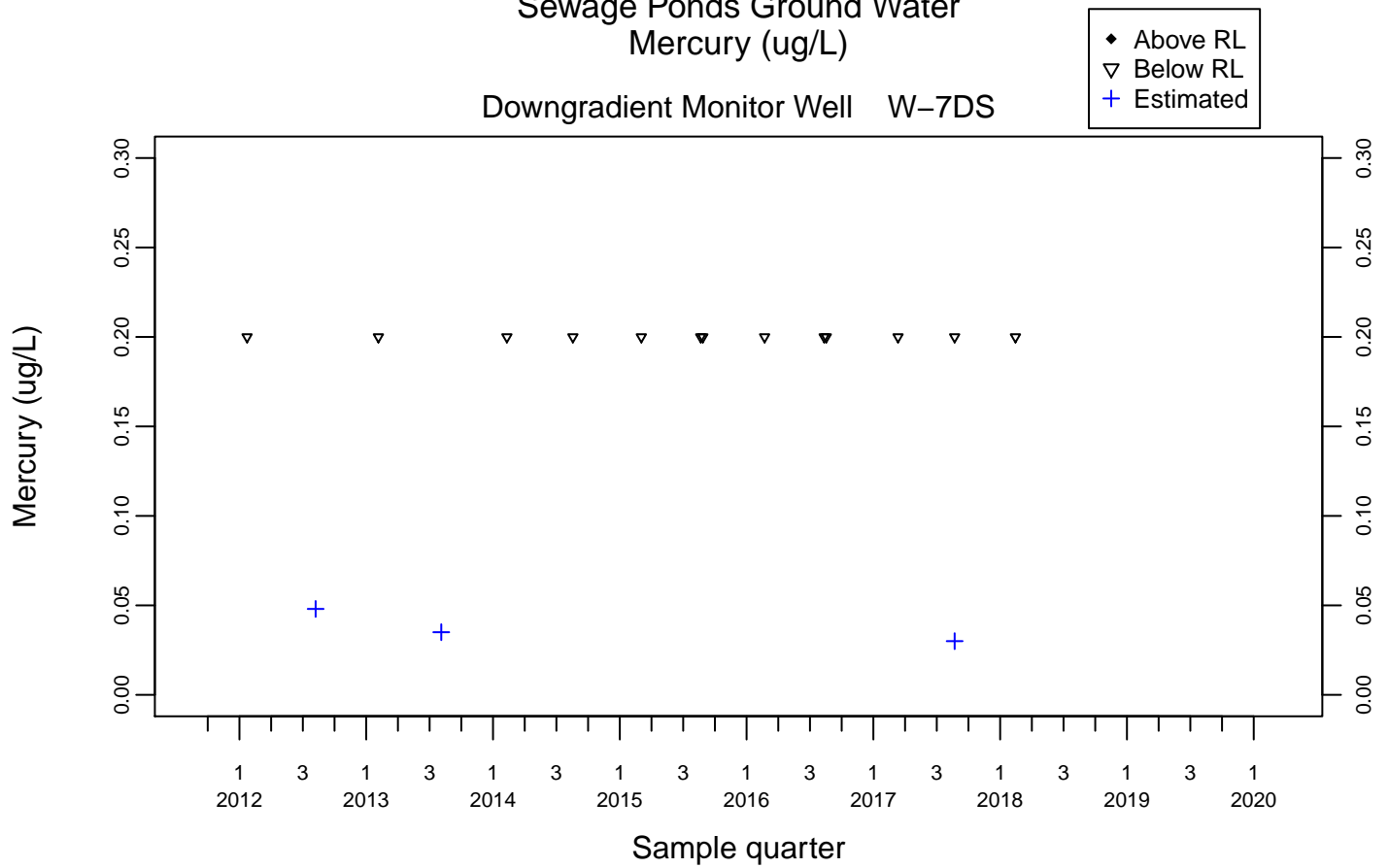


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Mercury (ug/L)

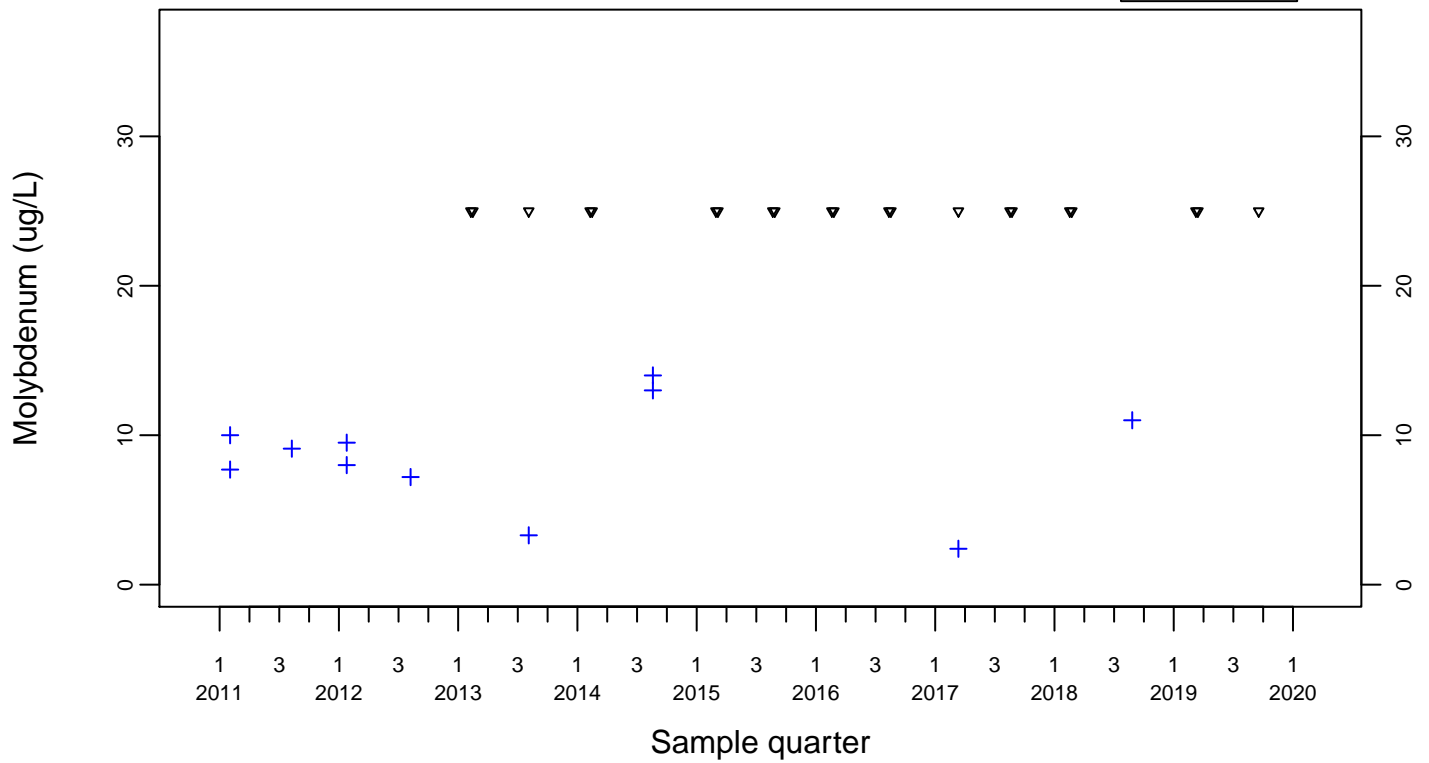
Downgradient Monitor Well W-7DS



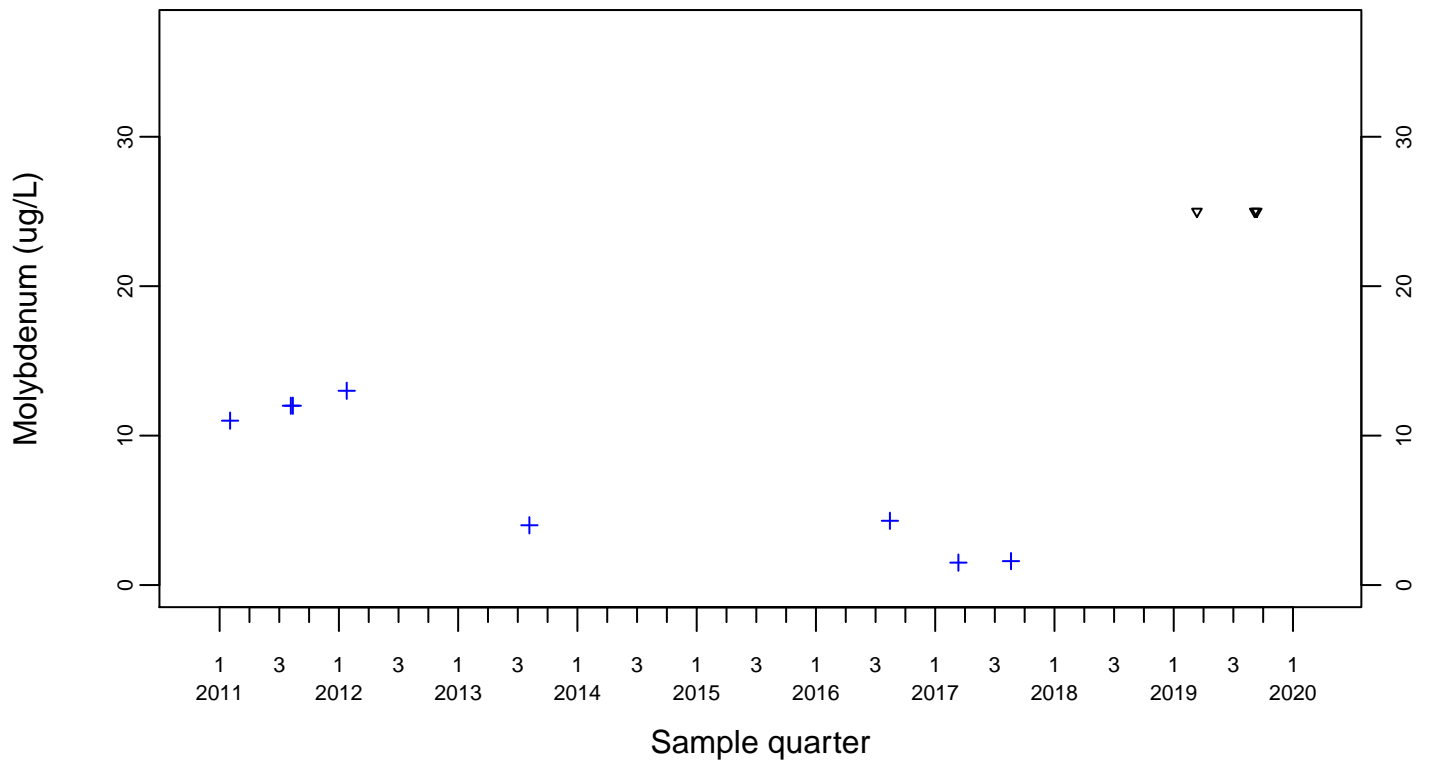
Sewage Ponds Ground Water Molybdenum (ug/L)

Upgradient Monitor Well W-7ES

- ◆ Above RL
- ▽ Below RL
- + Estimated



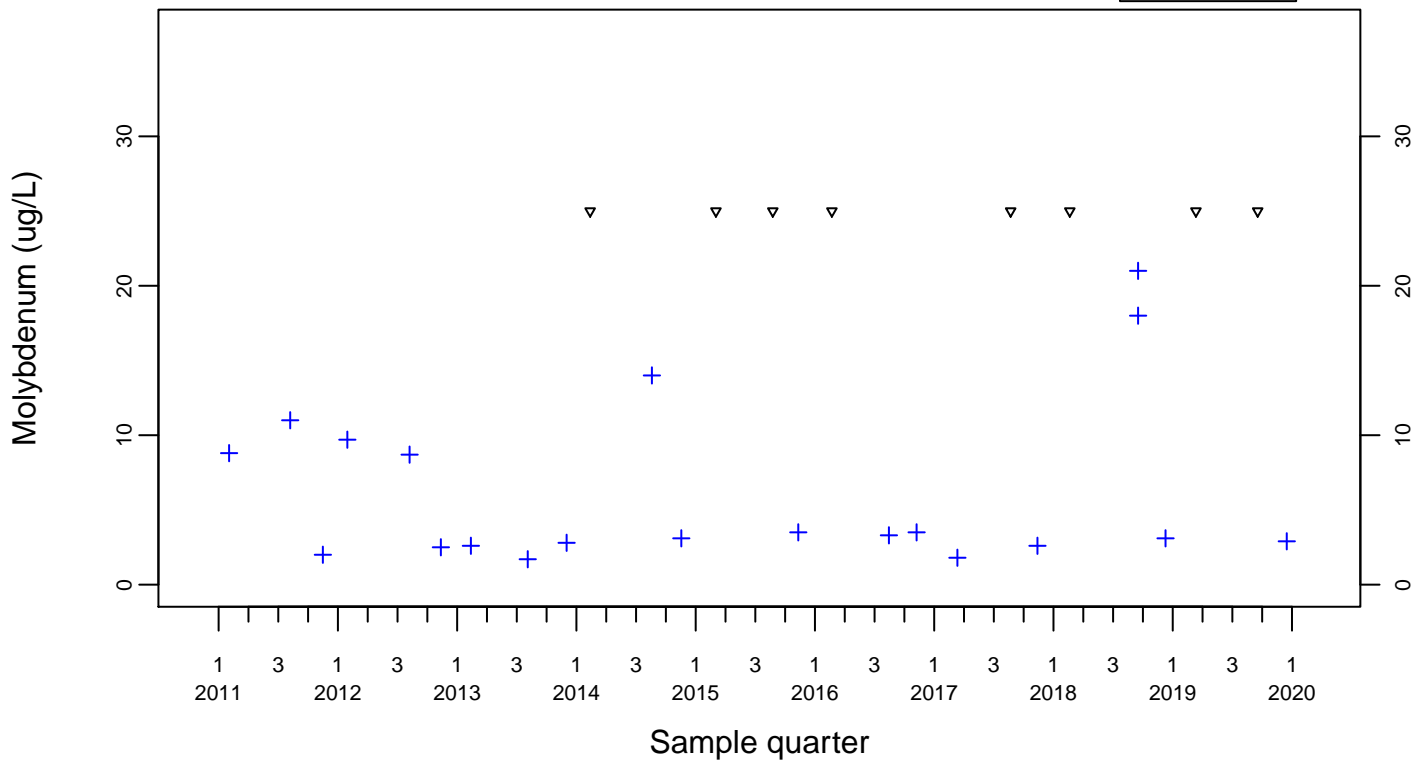
Upgradient Monitor Well W-7PS



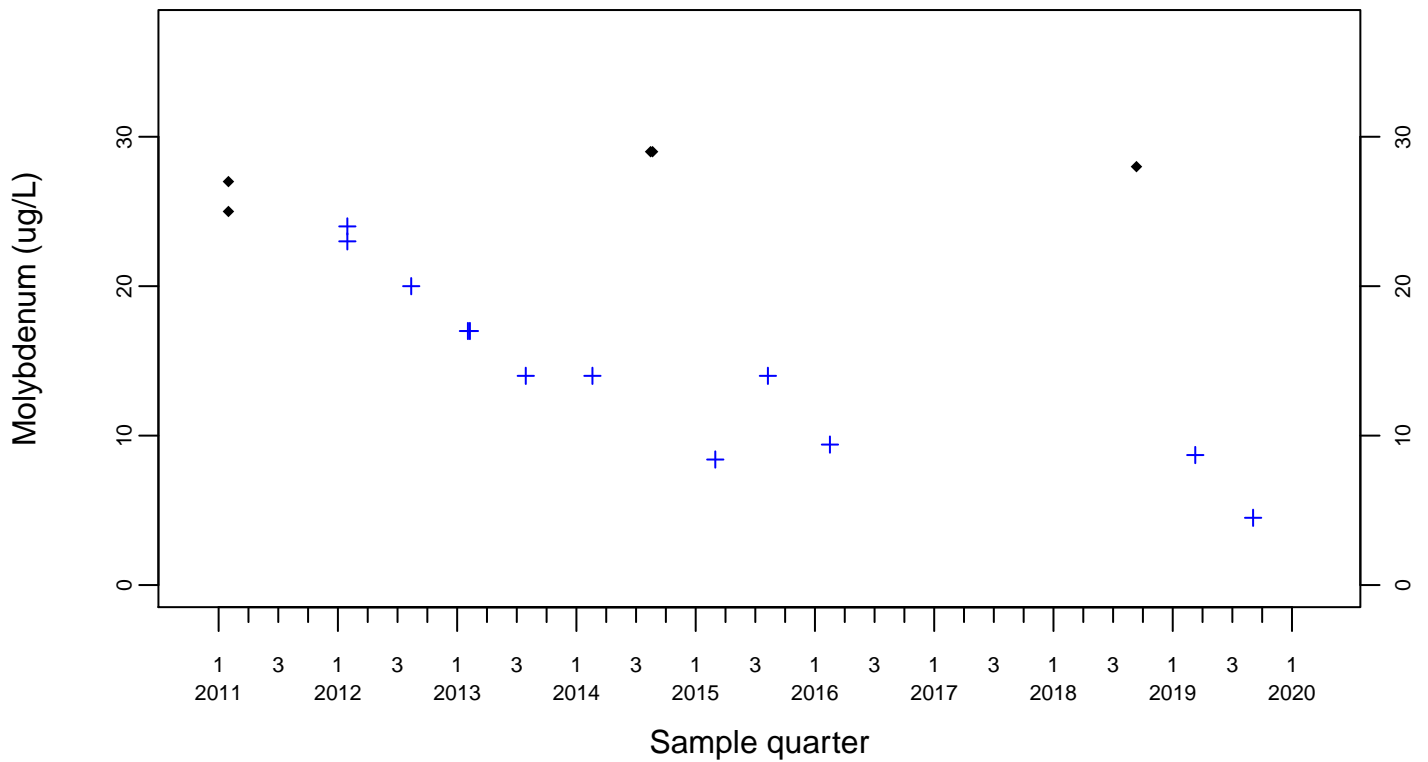
Sewage Ponds Ground Water Molybdenum (ug/L)

Crossgradient Monitor Well W-35A-04

- ◆ Above RL
- ▽ Below RL
- + Estimated



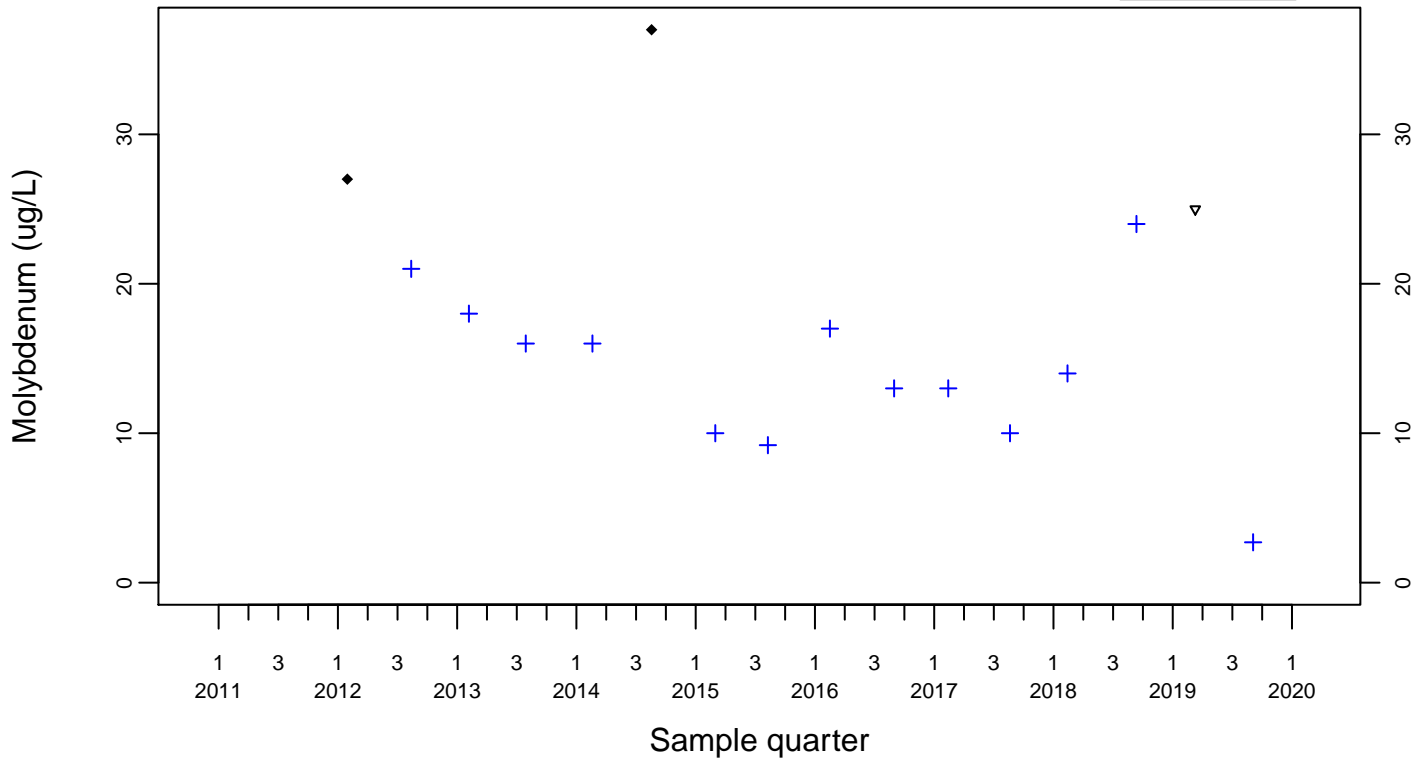
Downgradient Monitor Well W-25N-23



Sewage Ponds Ground Water
Molybdenum (ug/L)

Downgradient Monitor Well W-25N-22

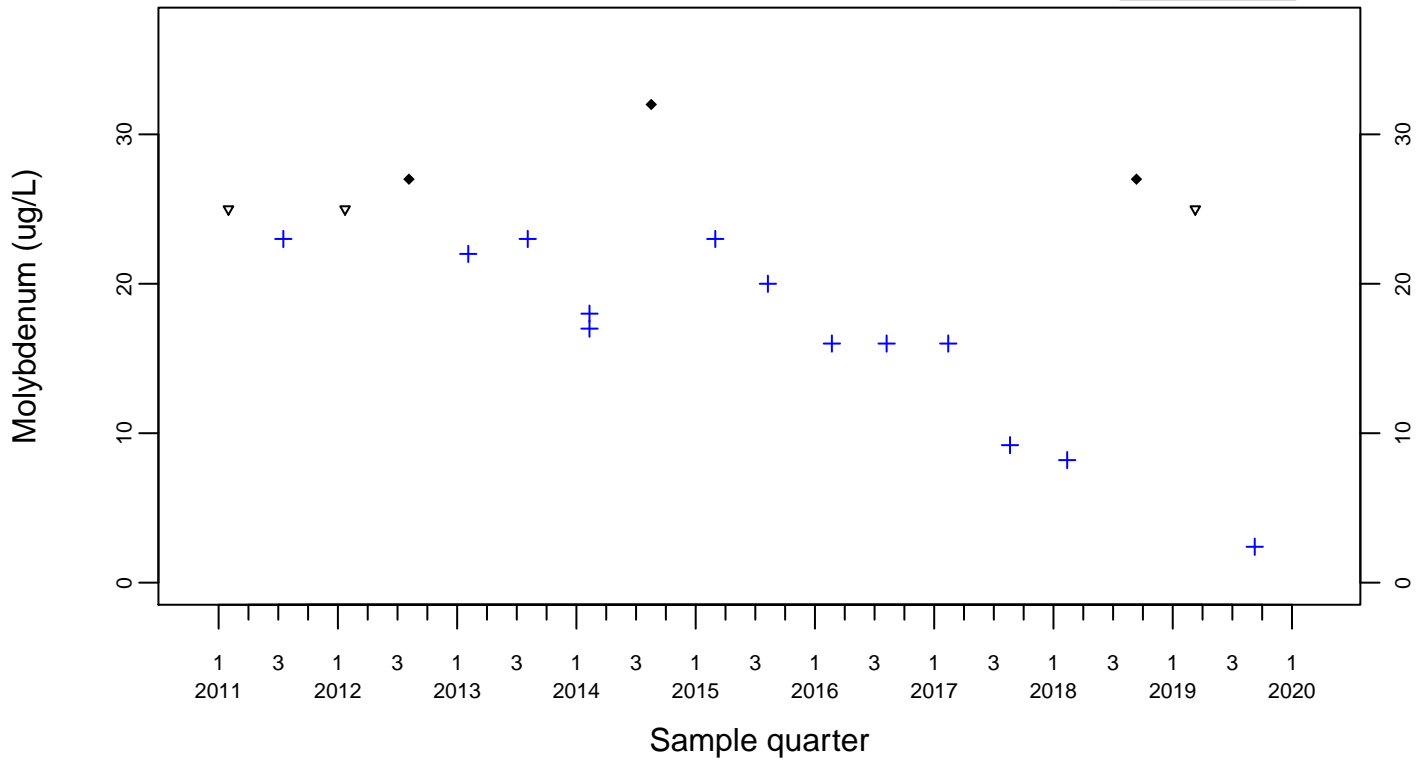
- ◆ Above RL
- ▽ Below RL
- + Estimated



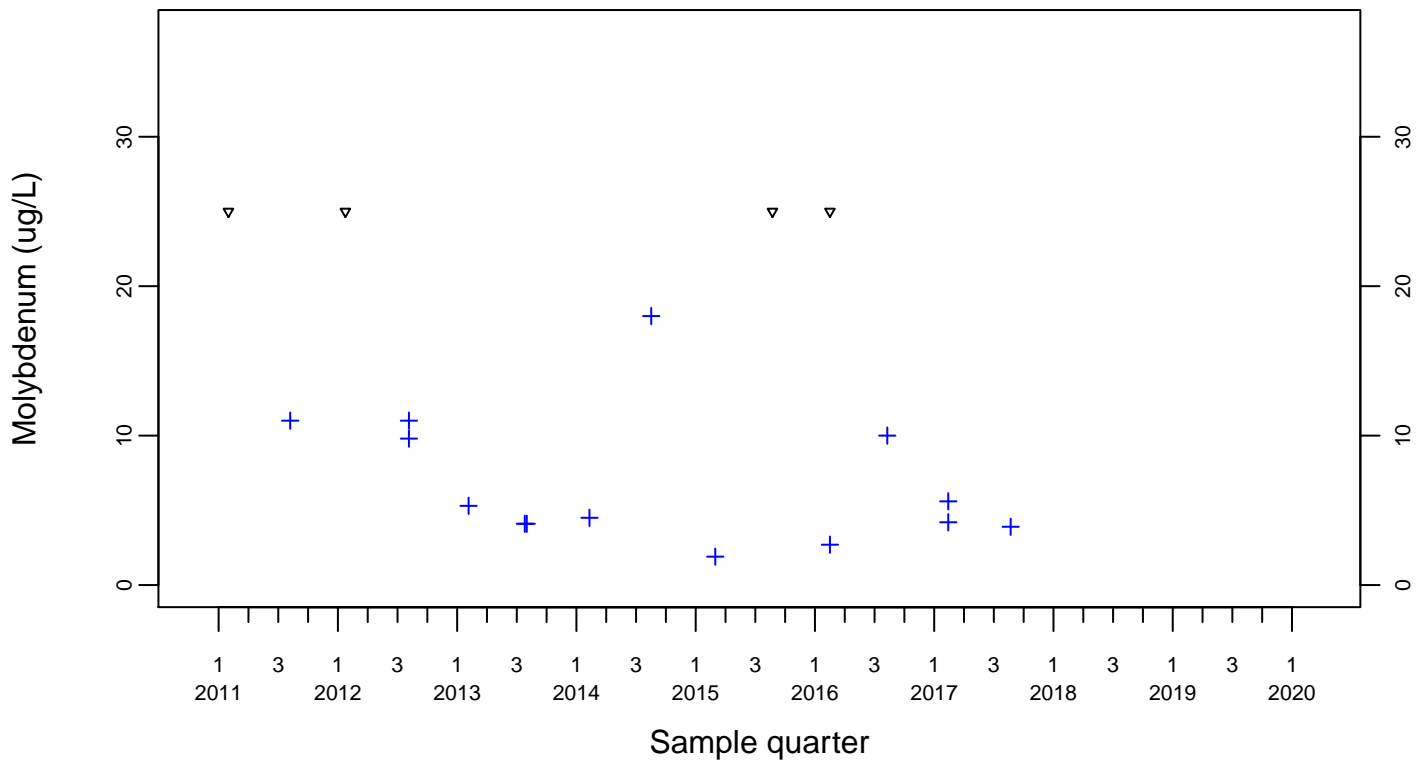
Sewage Ponds Ground Water
Molybdenum (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated

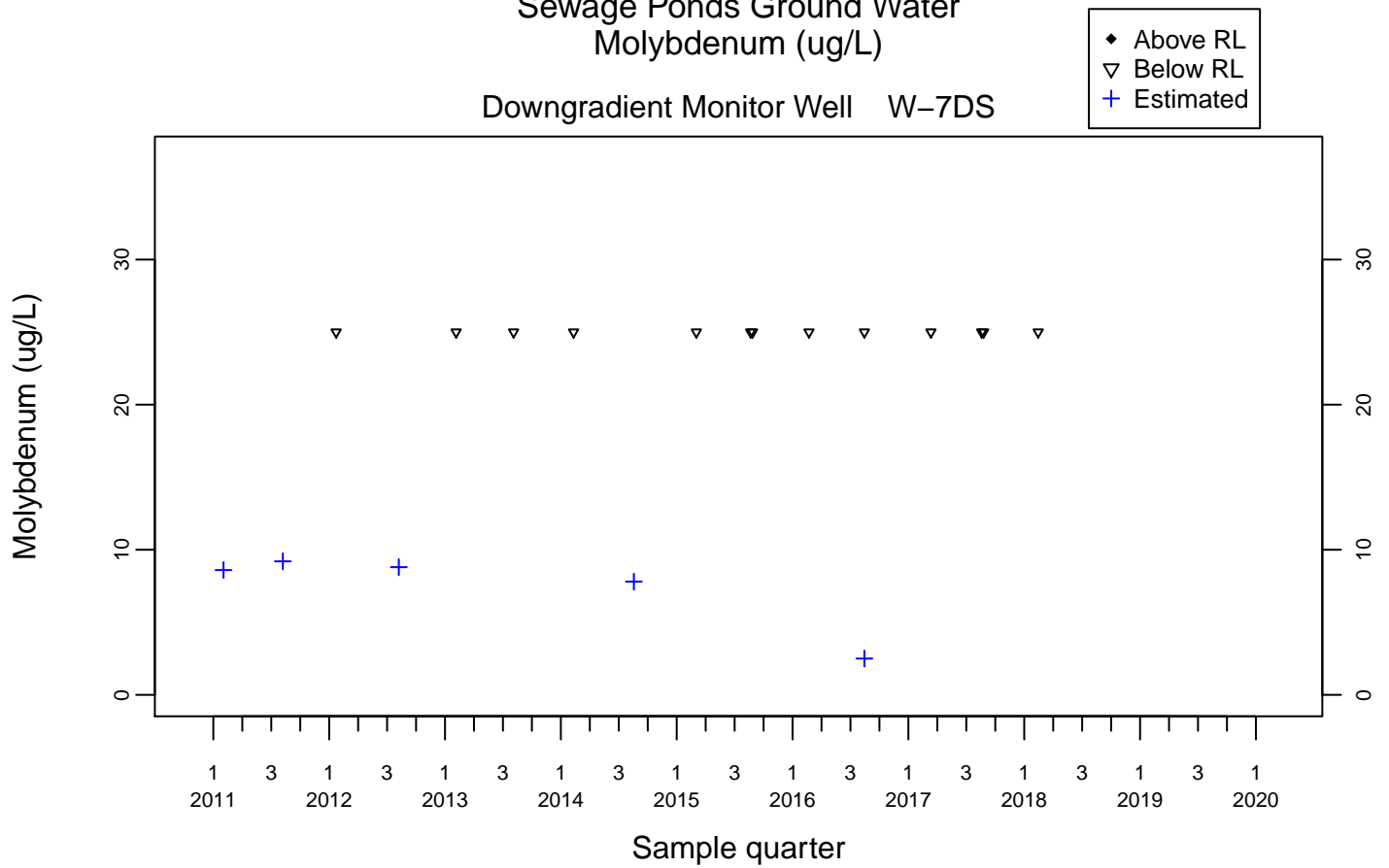


Downgradient Monitor Well W-26R-11



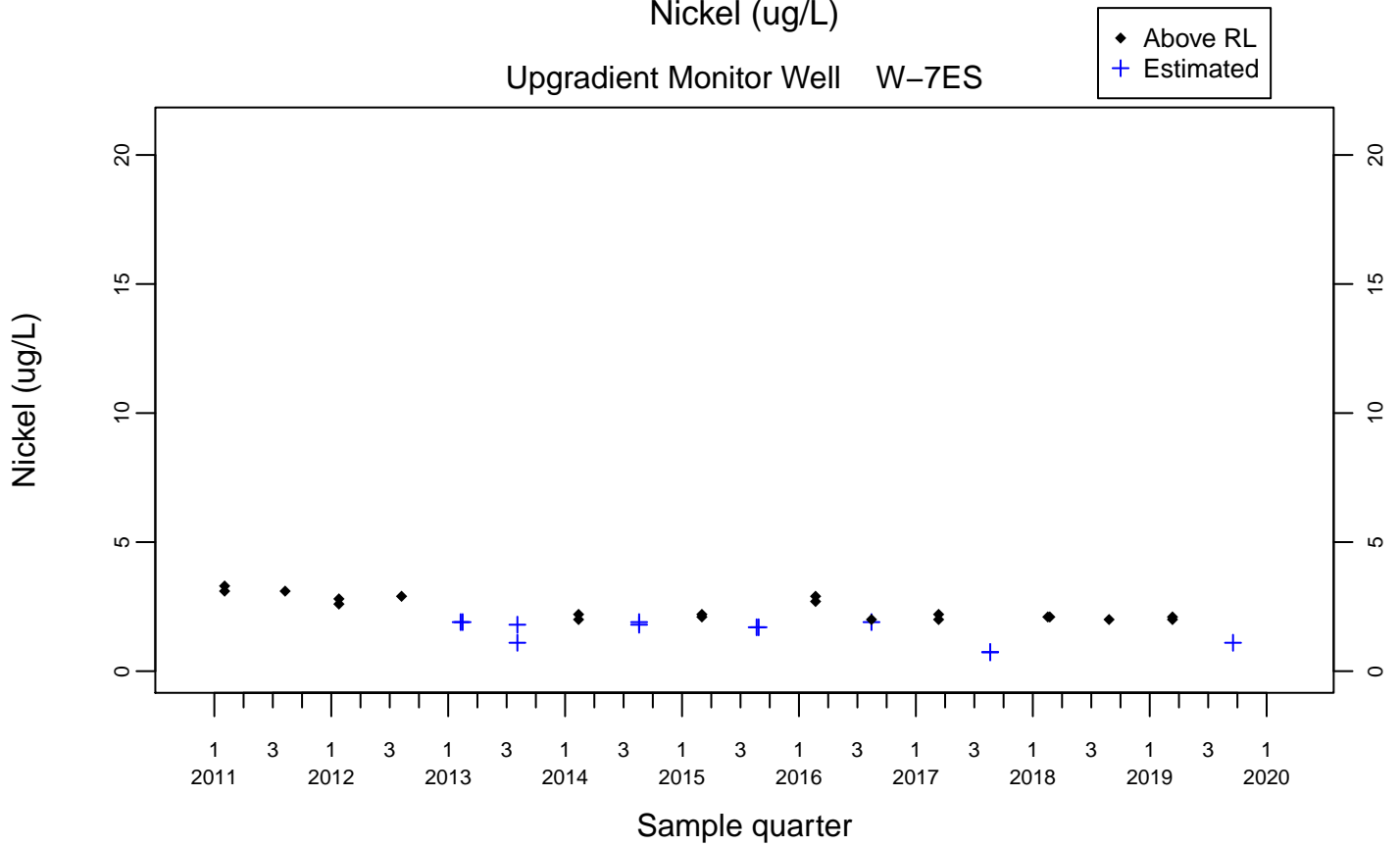
Sewage Ponds Ground Water
Molybdenum (ug/L)

Downgradient Monitor Well W-7DS

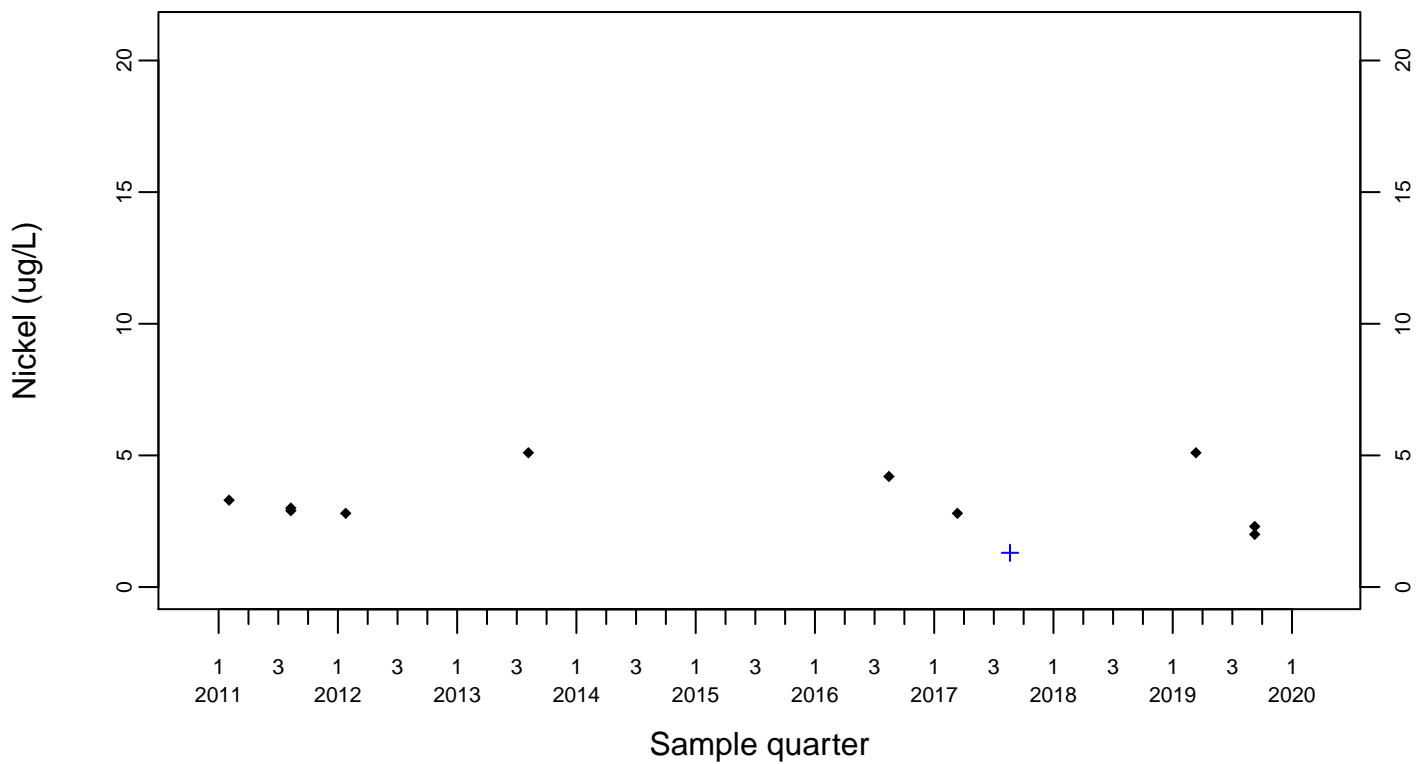


Sewage Ponds Ground Water
Nickel (ug/L)

Upgradient Monitor Well W-7ES



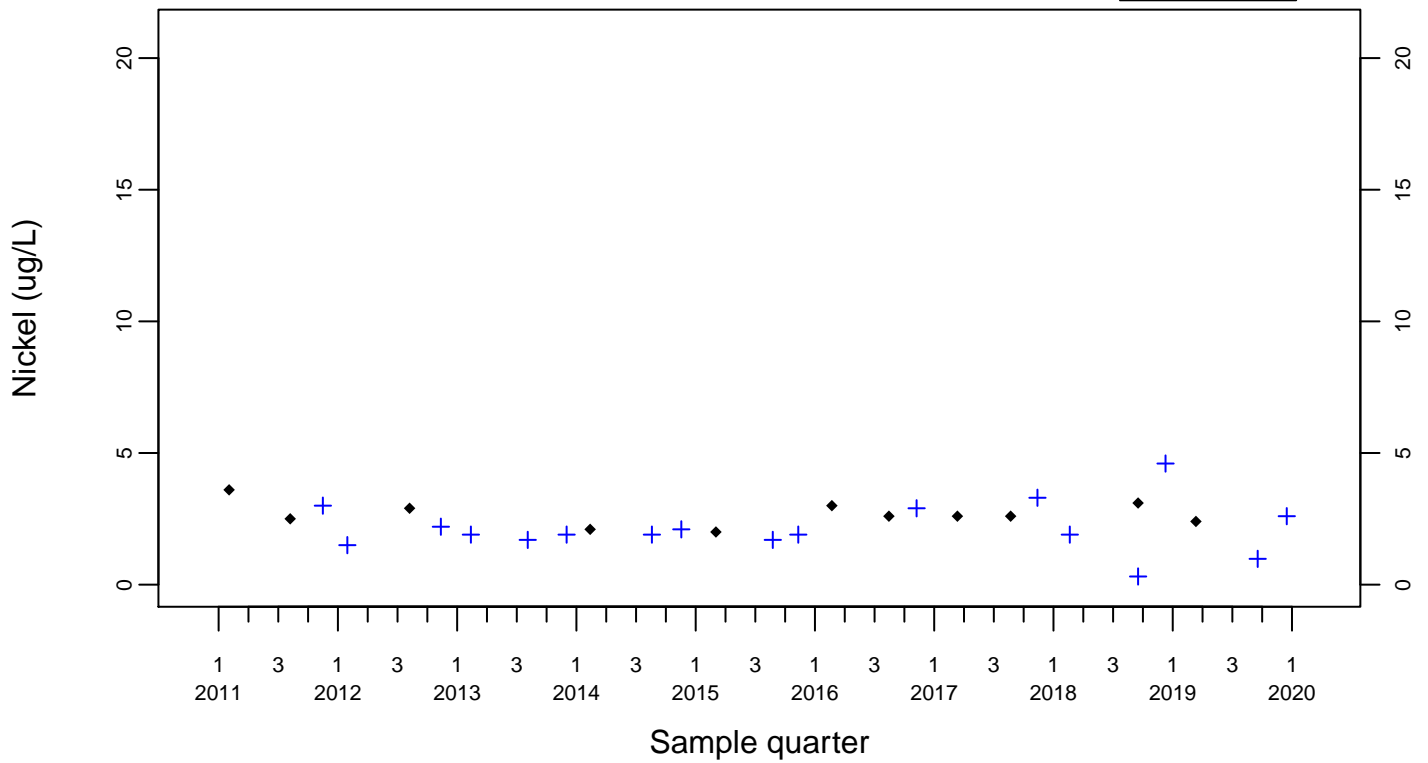
Upgradient Monitor Well W-7PS



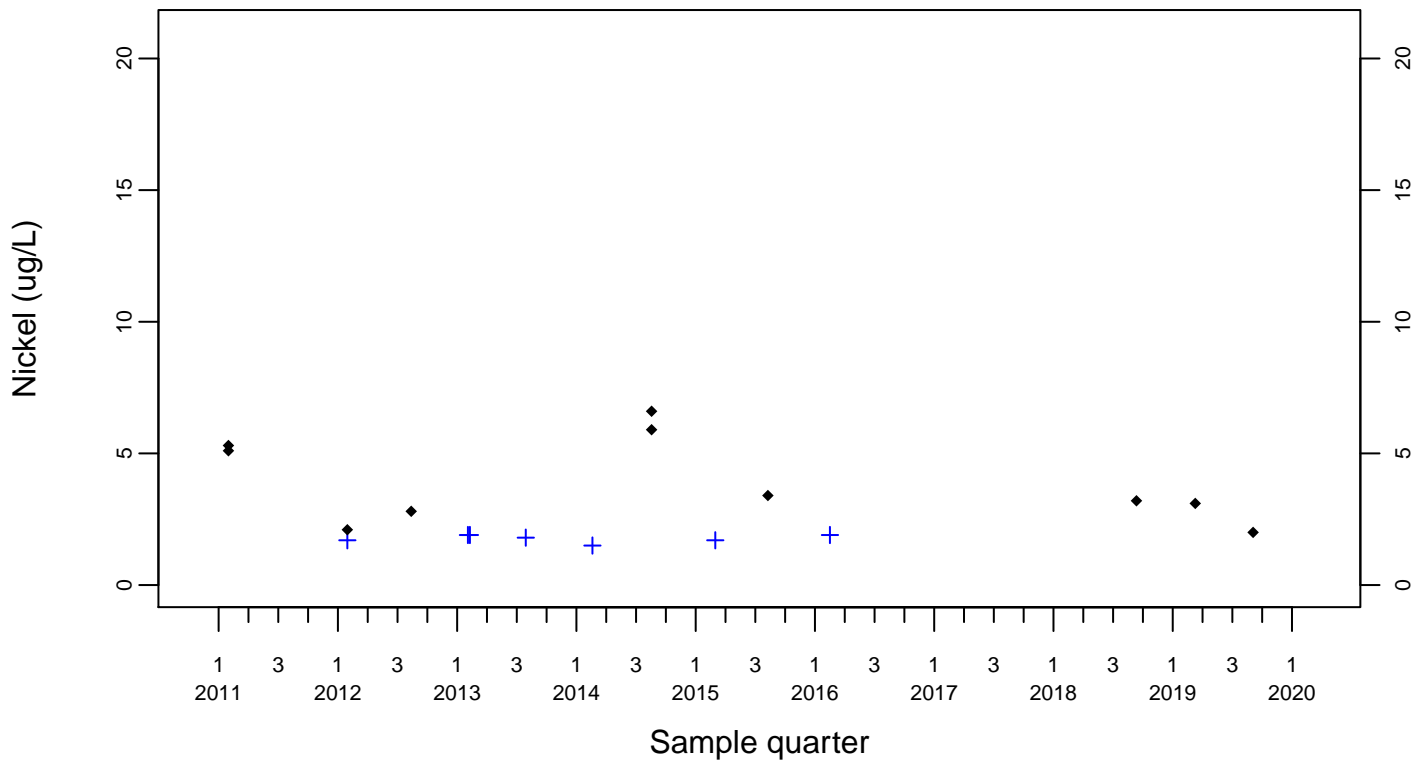
Sewage Ponds Ground Water
Nickel (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
+ Estimated



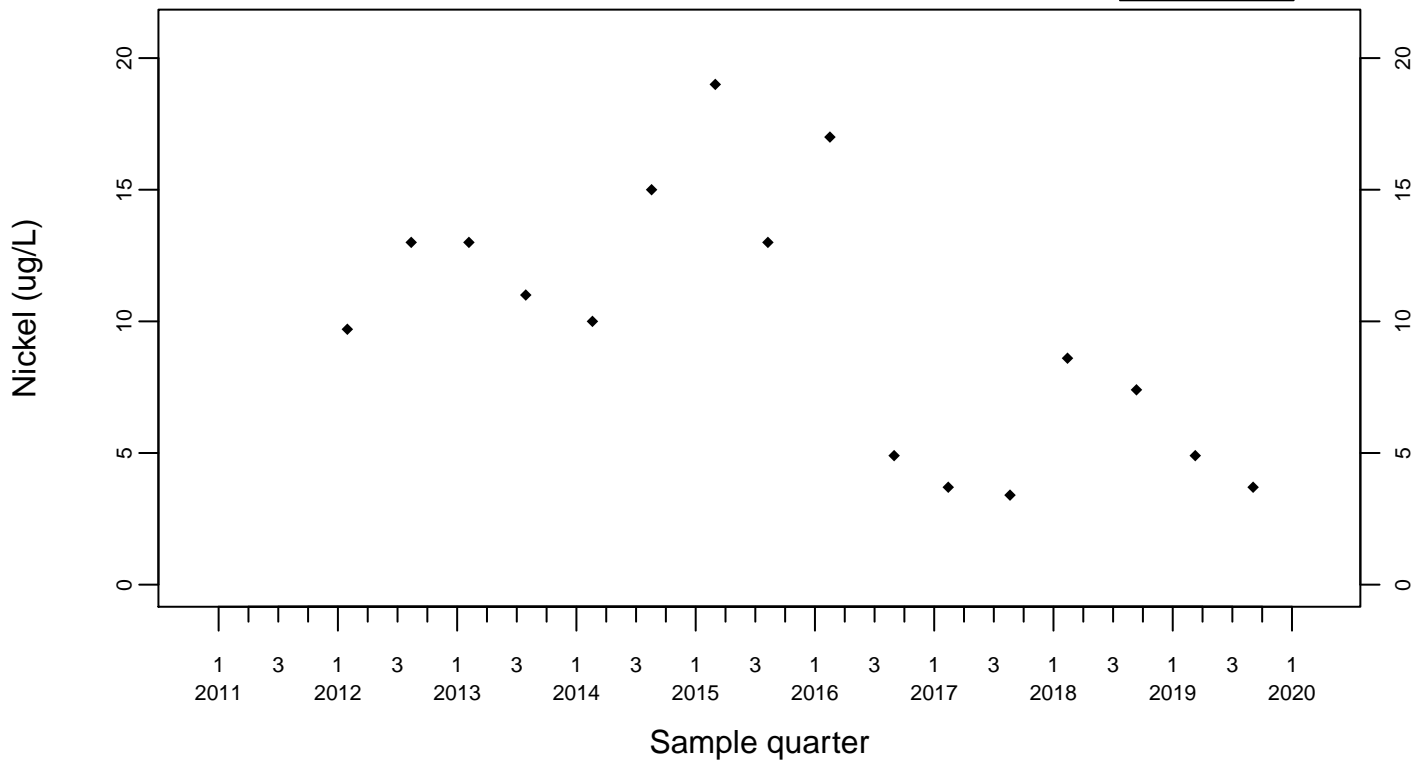
Downgradient Monitor Well W-25N-23



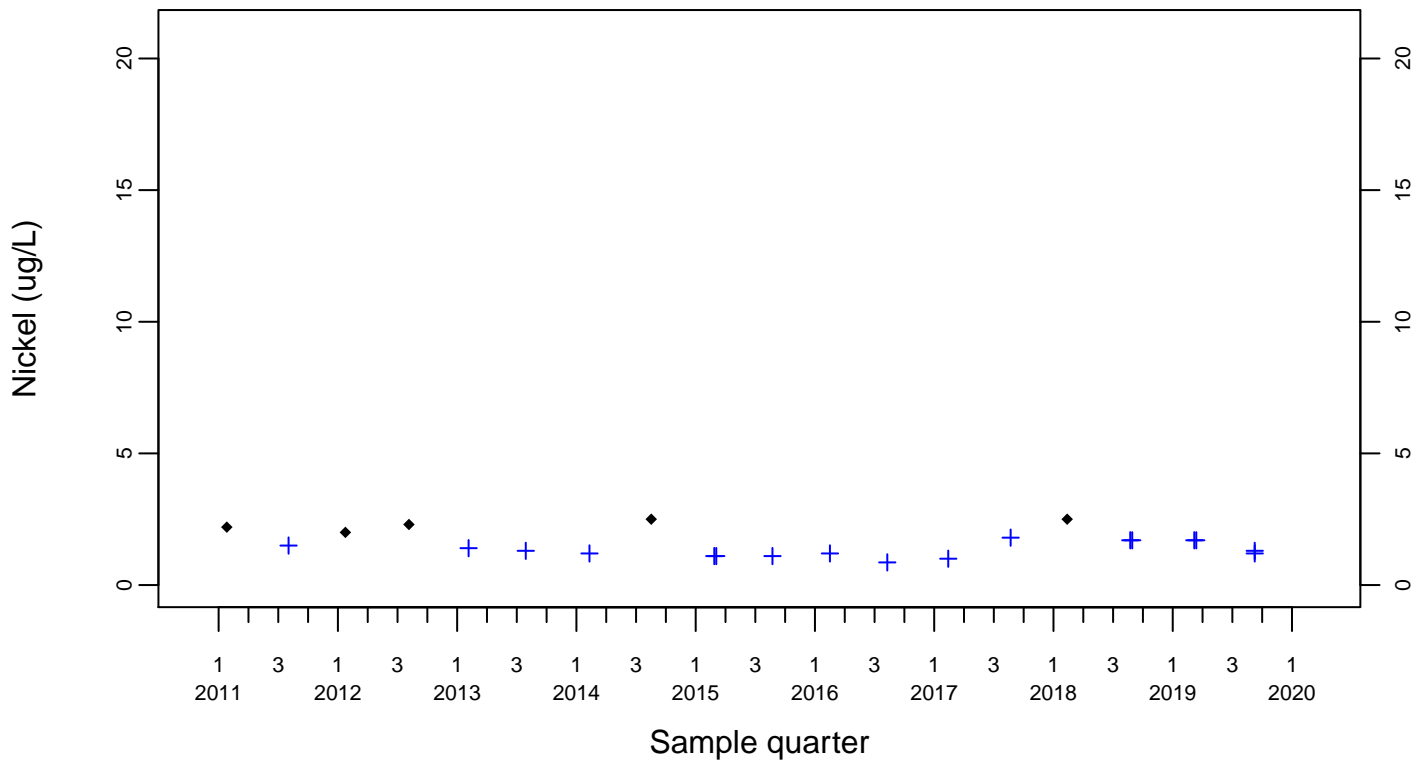
Sewage Ponds Ground Water
Nickel (ug/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



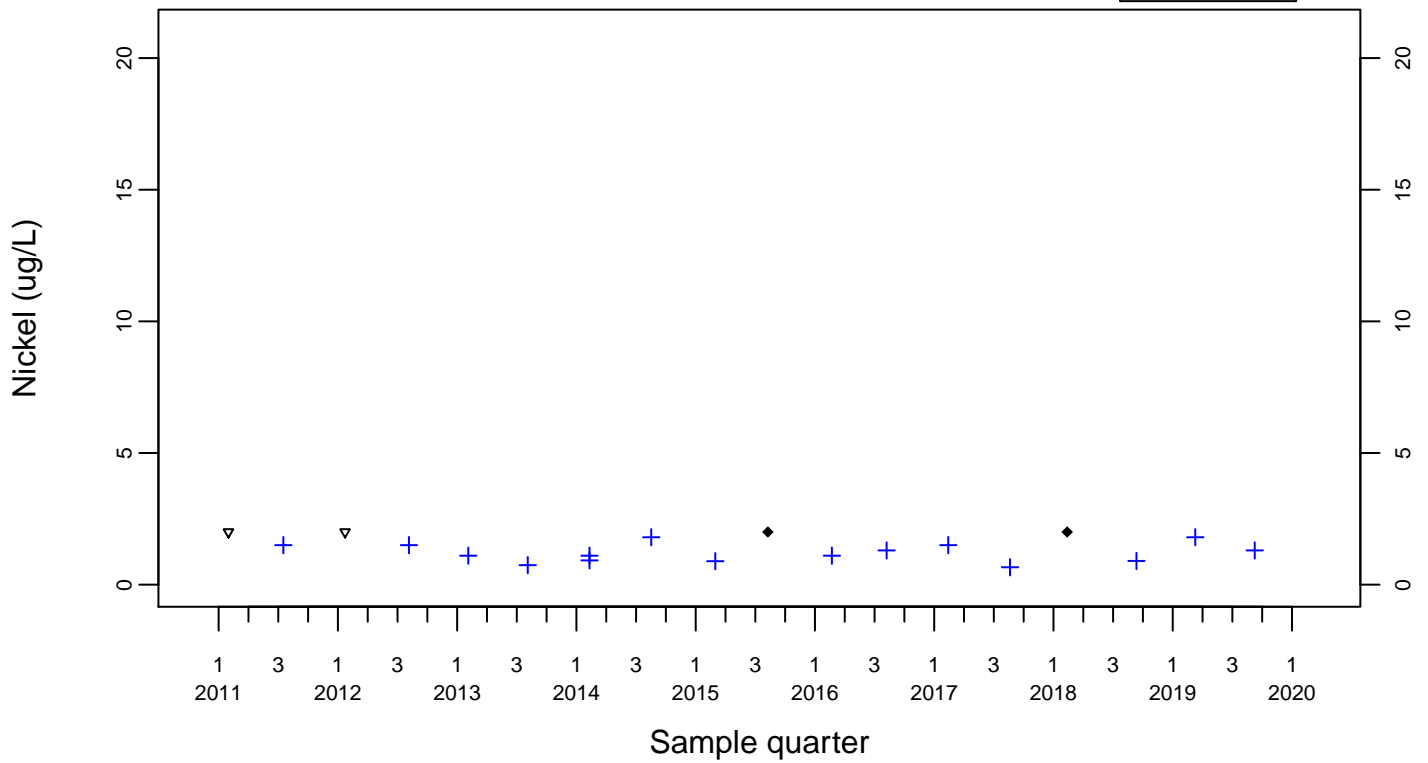
Downgradient Monitor Well W-26R-01



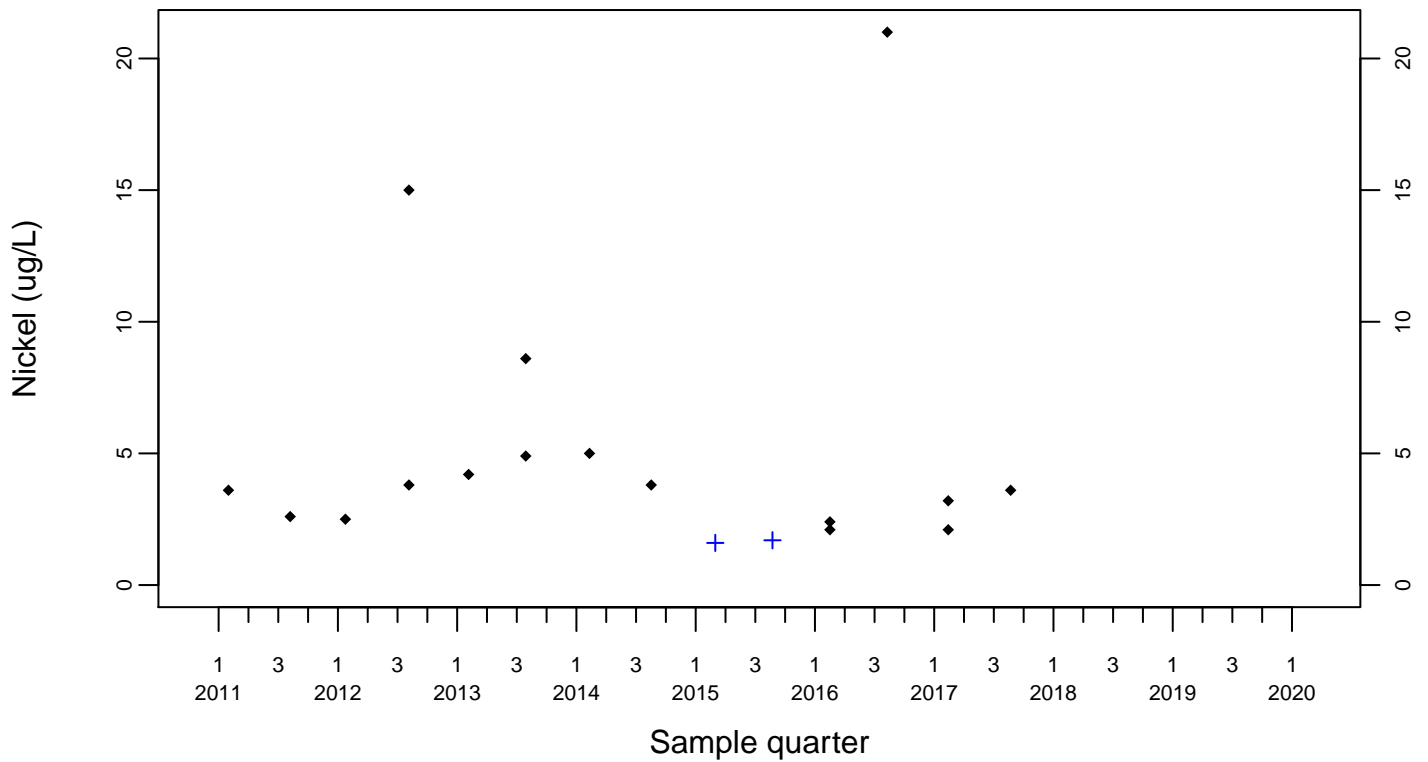
Sewage Ponds Ground Water
Nickel (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated

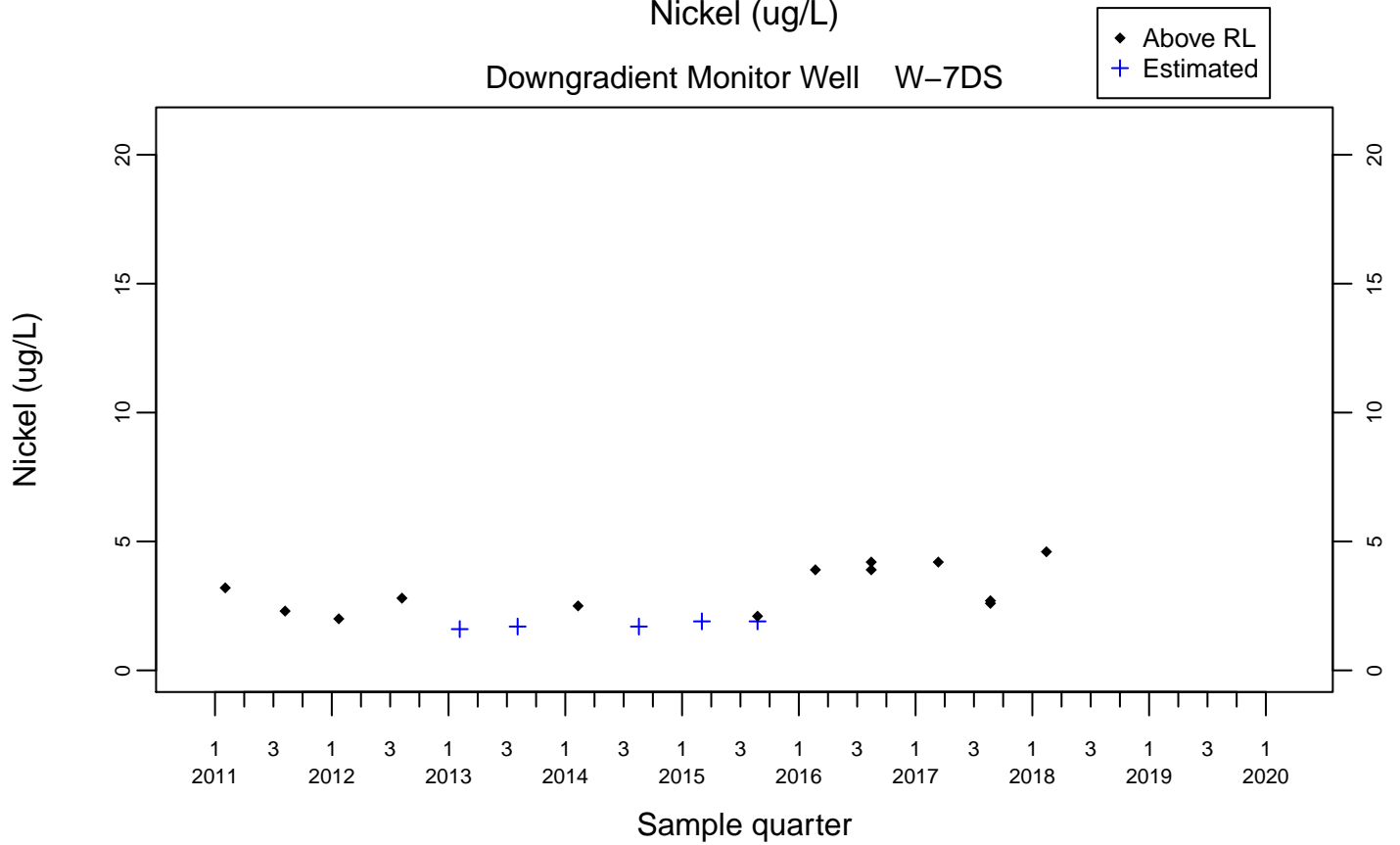


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water Nickel (ug/L)

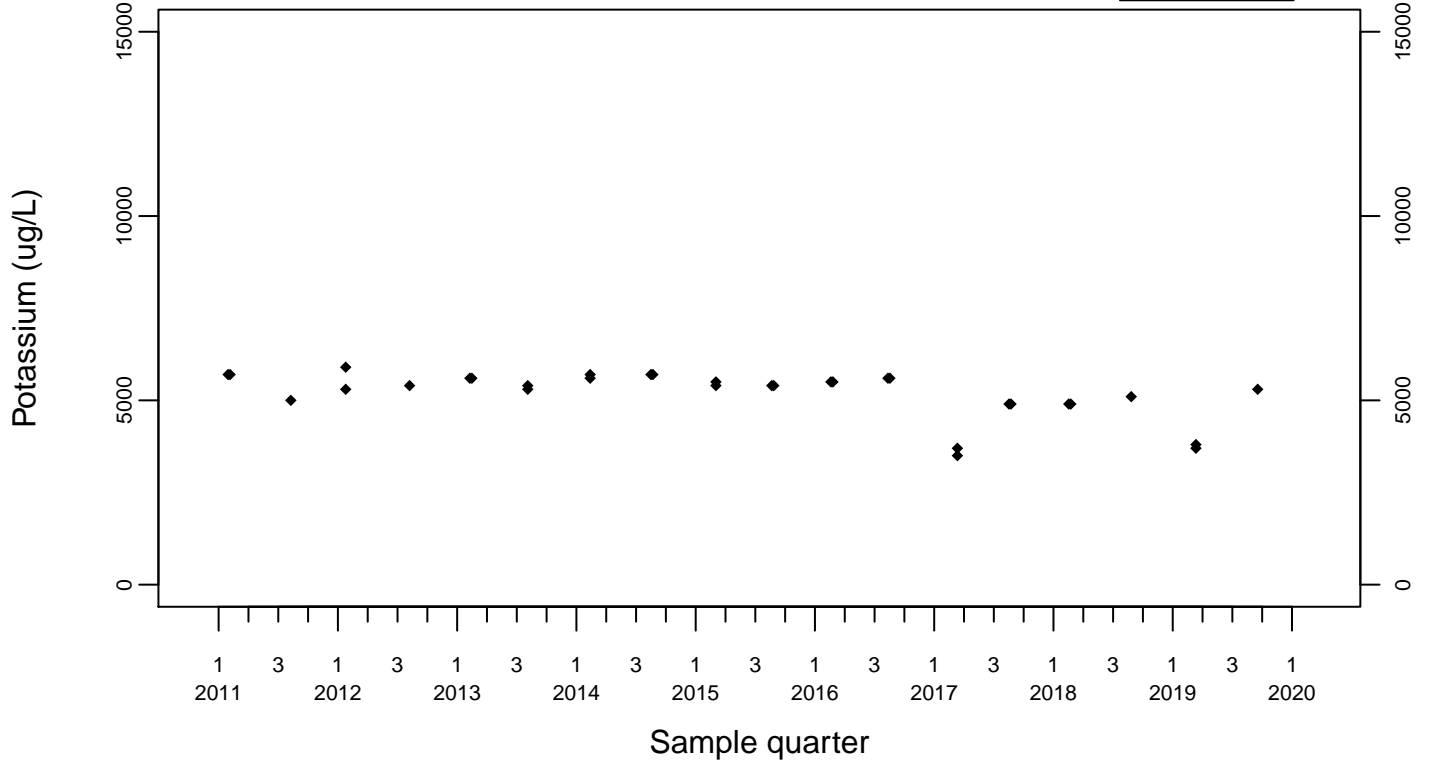
Downgradient Monitor Well W-7DS



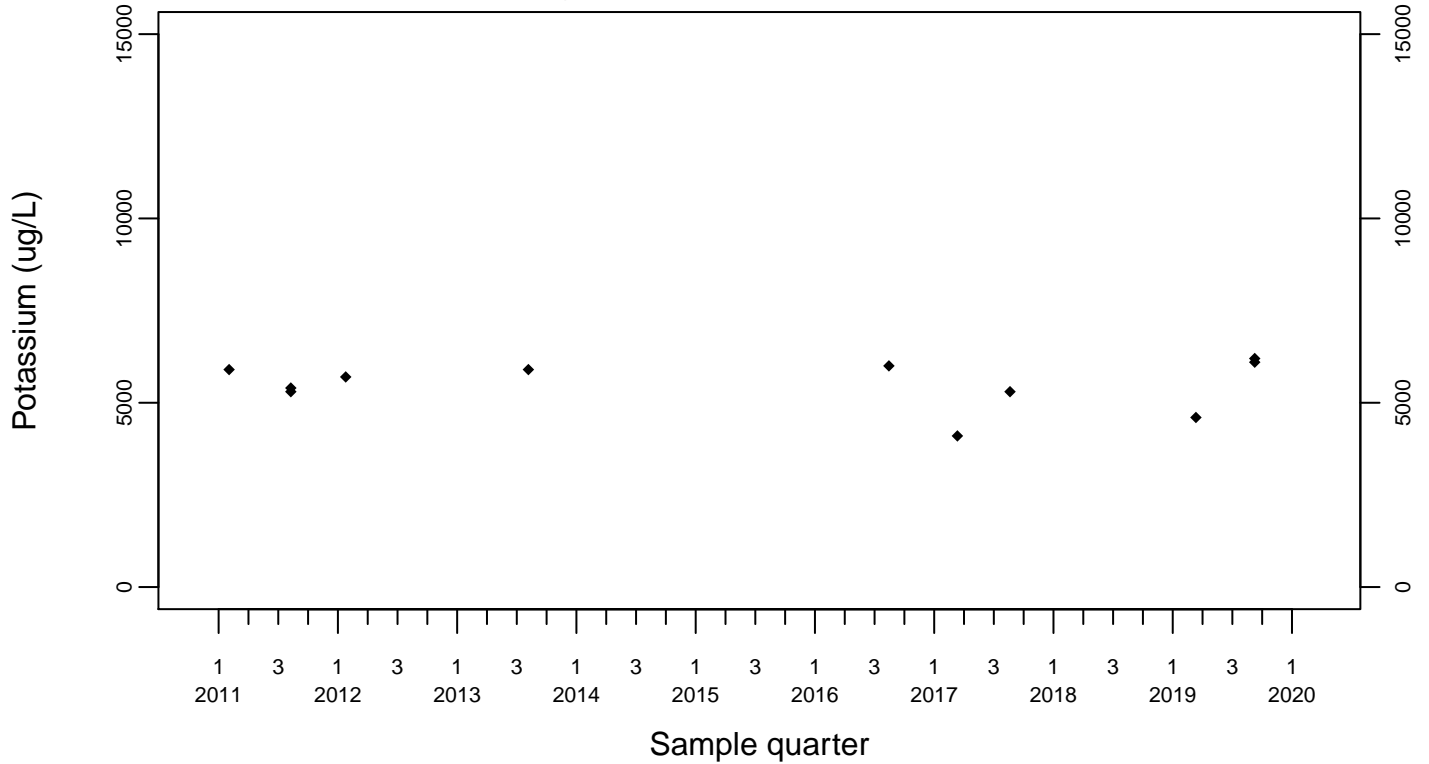
Sewage Ponds Ground Water
Potassium (ug/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



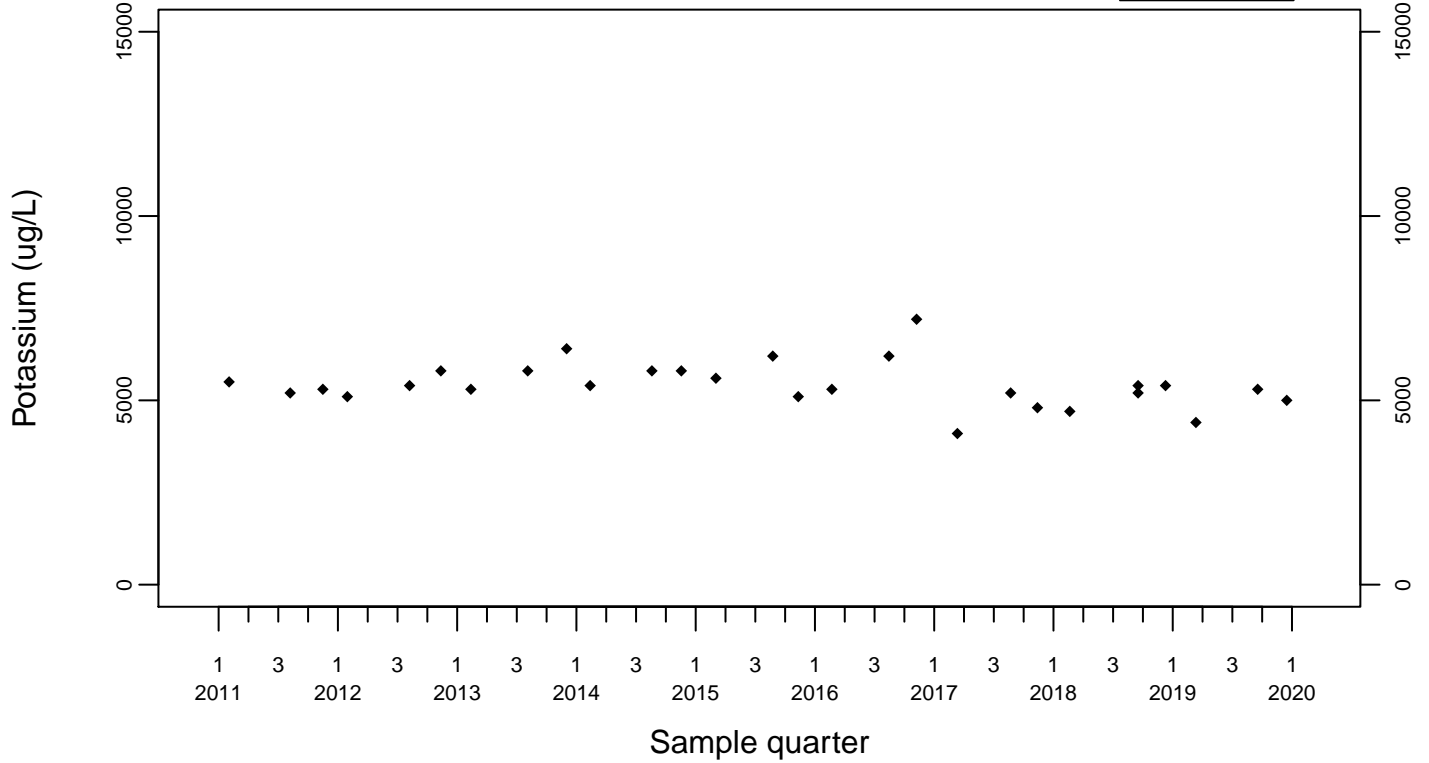
Upgradient Monitor Well W-7PS



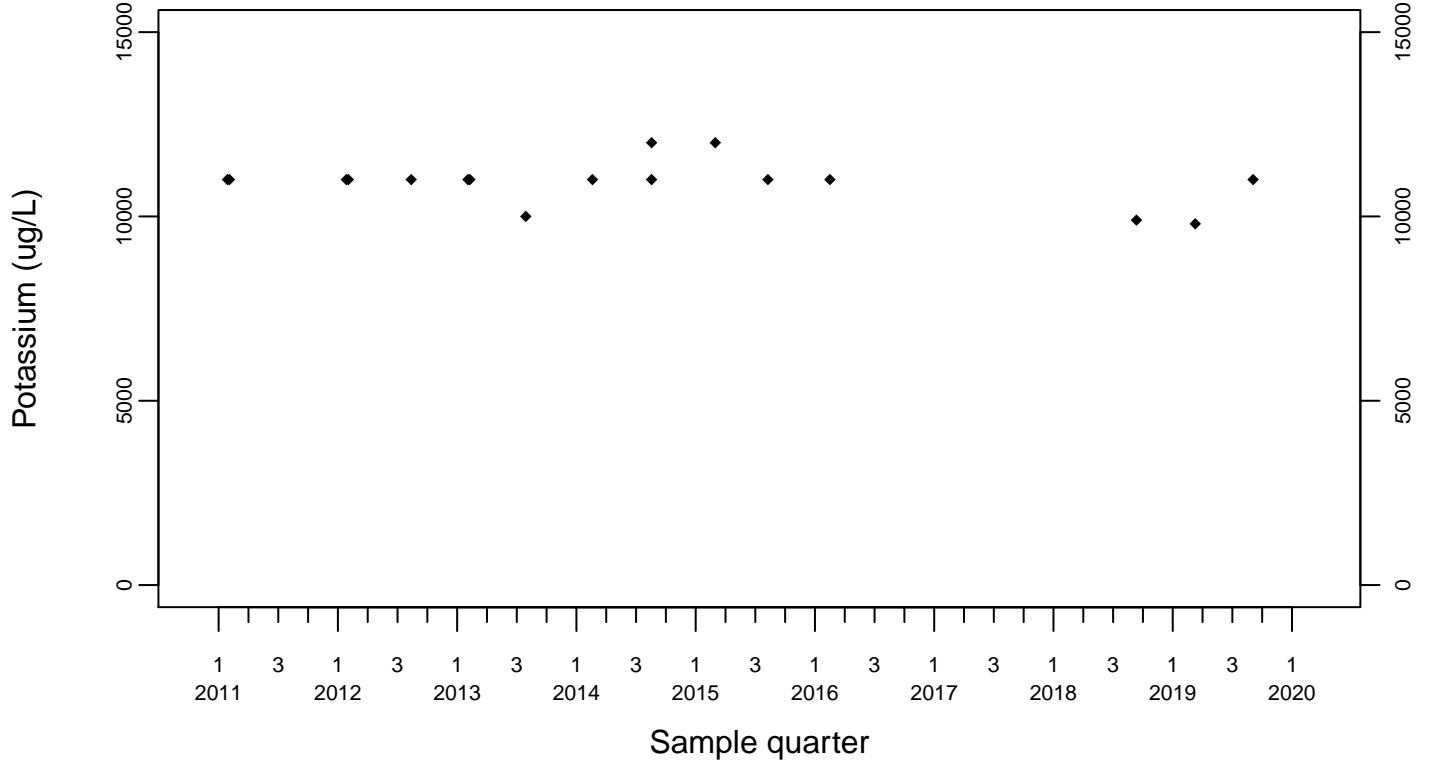
Sewage Ponds Ground Water
Potassium (ug/L)

Crossgradient Monitor Well W-35A-04

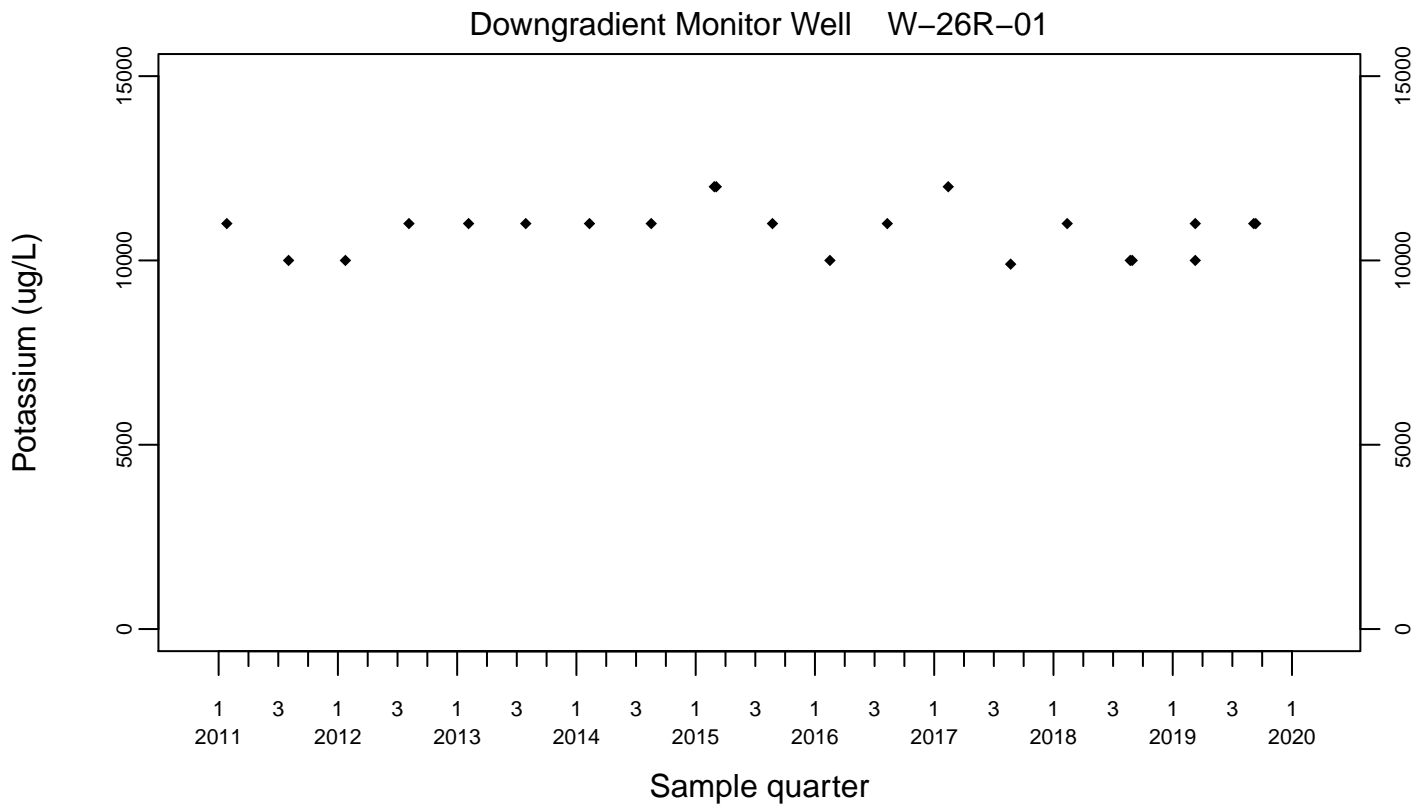
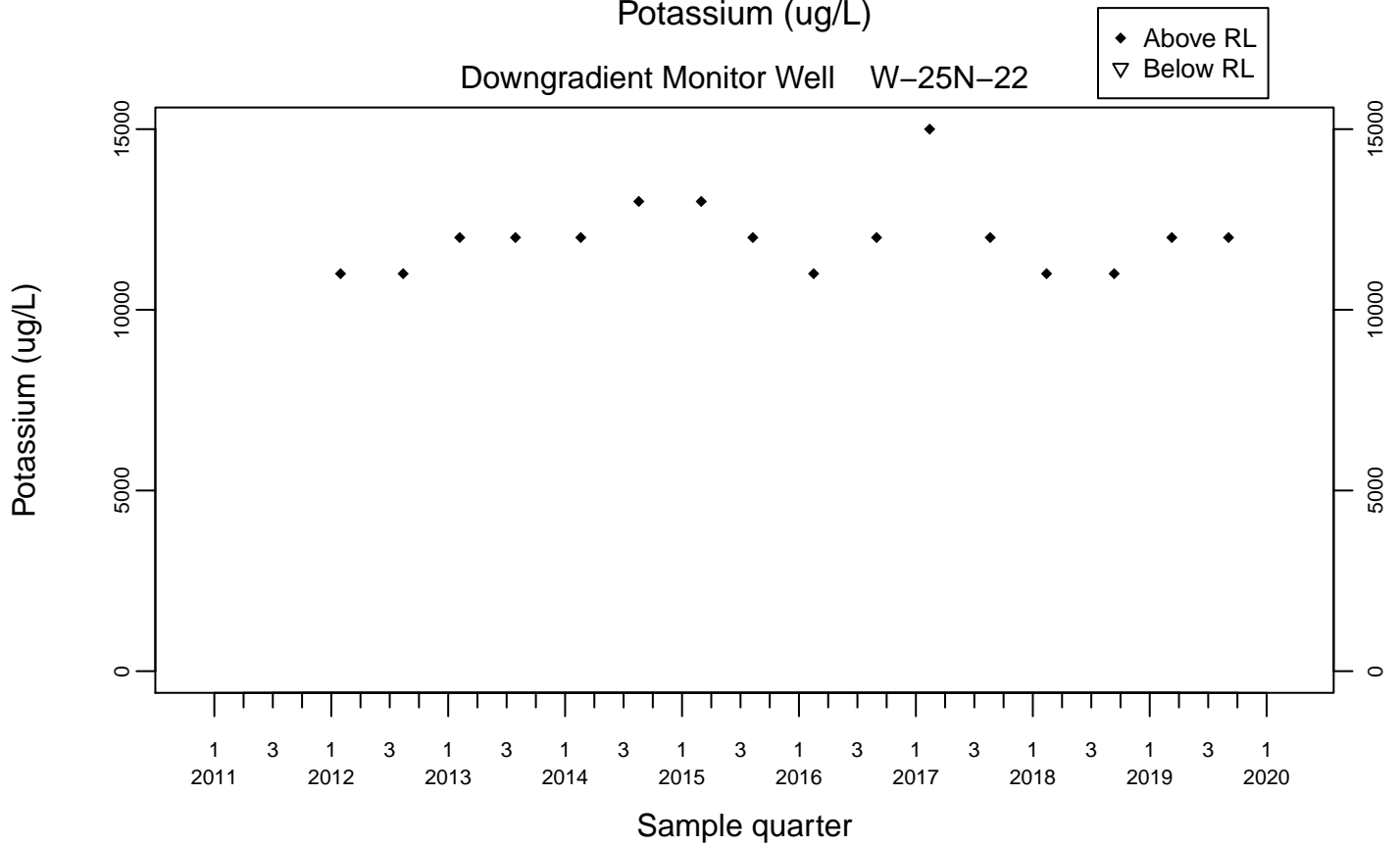
◆ Above RL
▽ Below RL



Downgradient Monitor Well W-25N-23



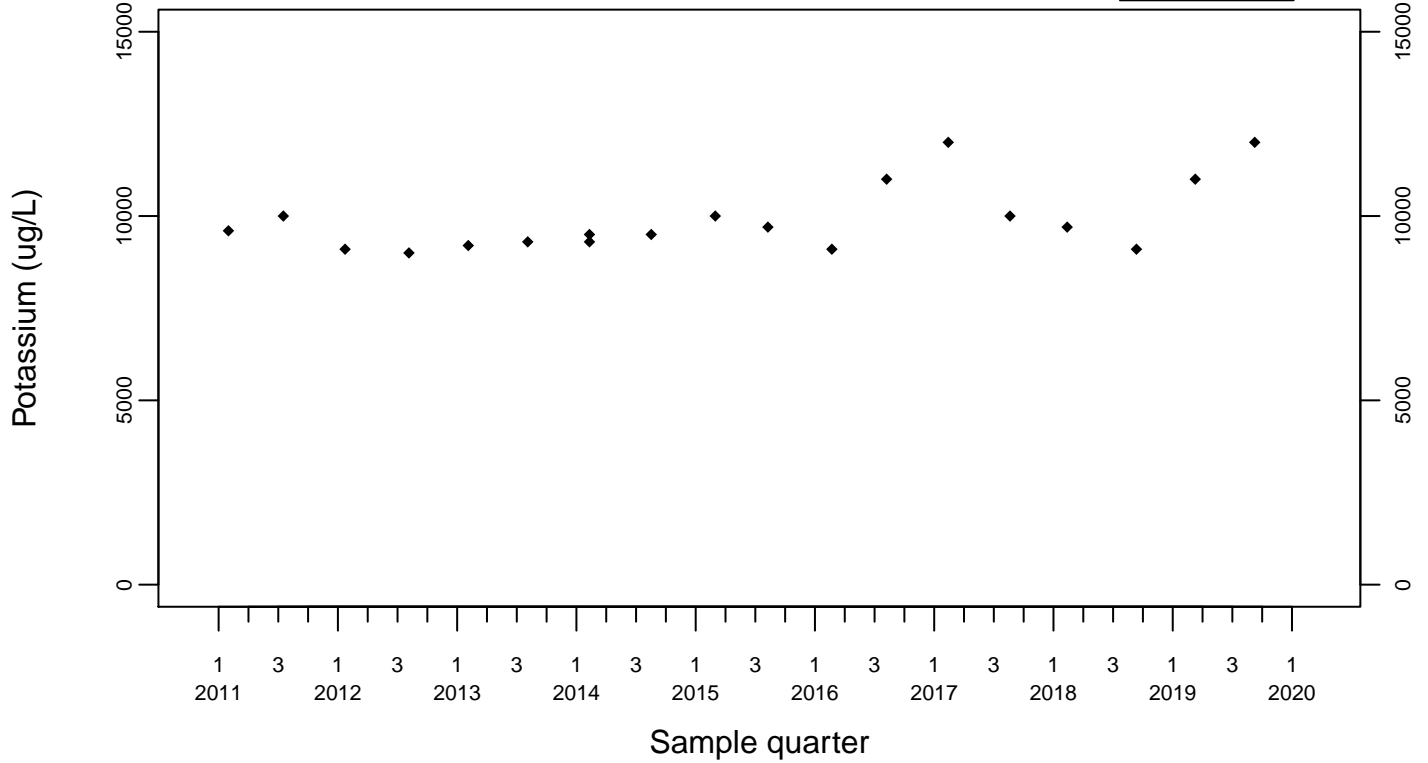
Sewage Ponds Ground Water
Potassium (ug/L)



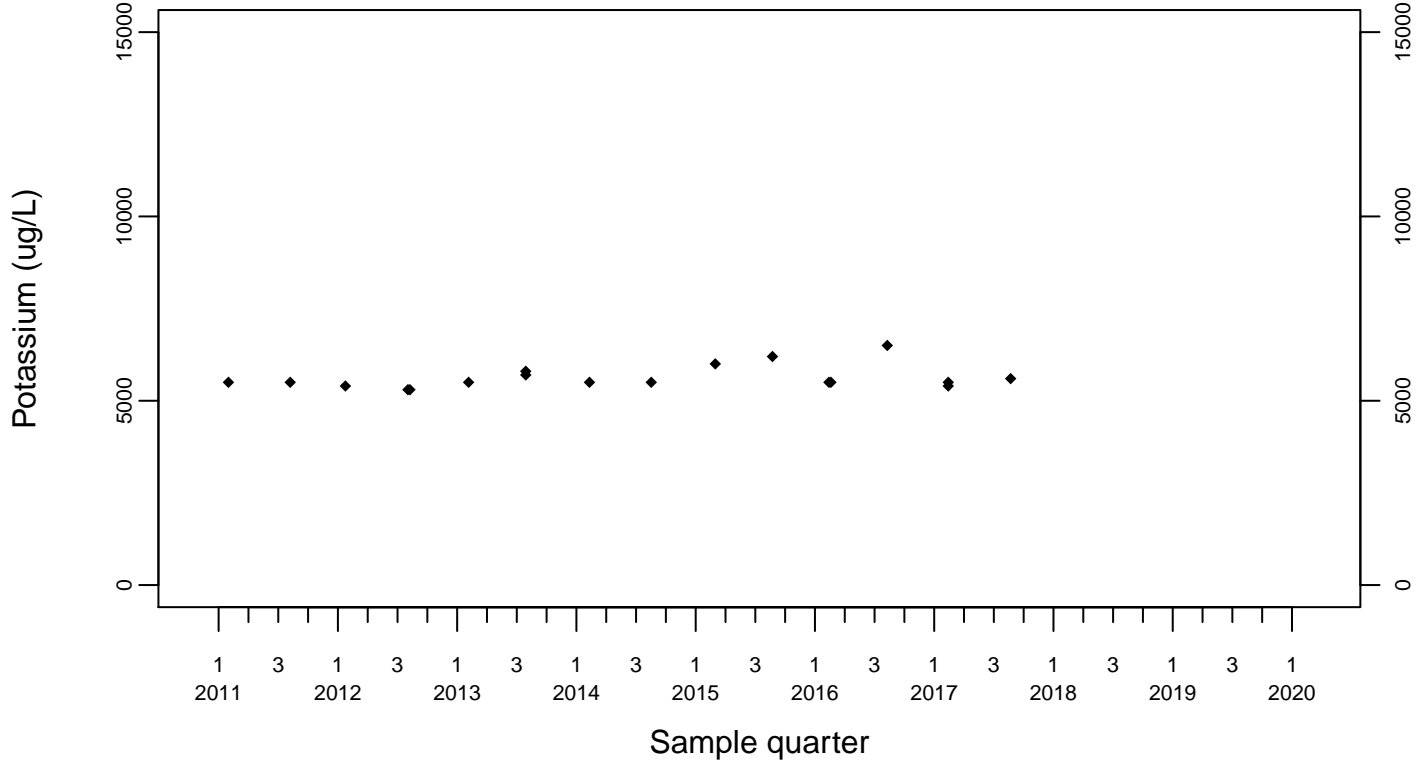
Sewage Ponds Ground Water
Potassium (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL

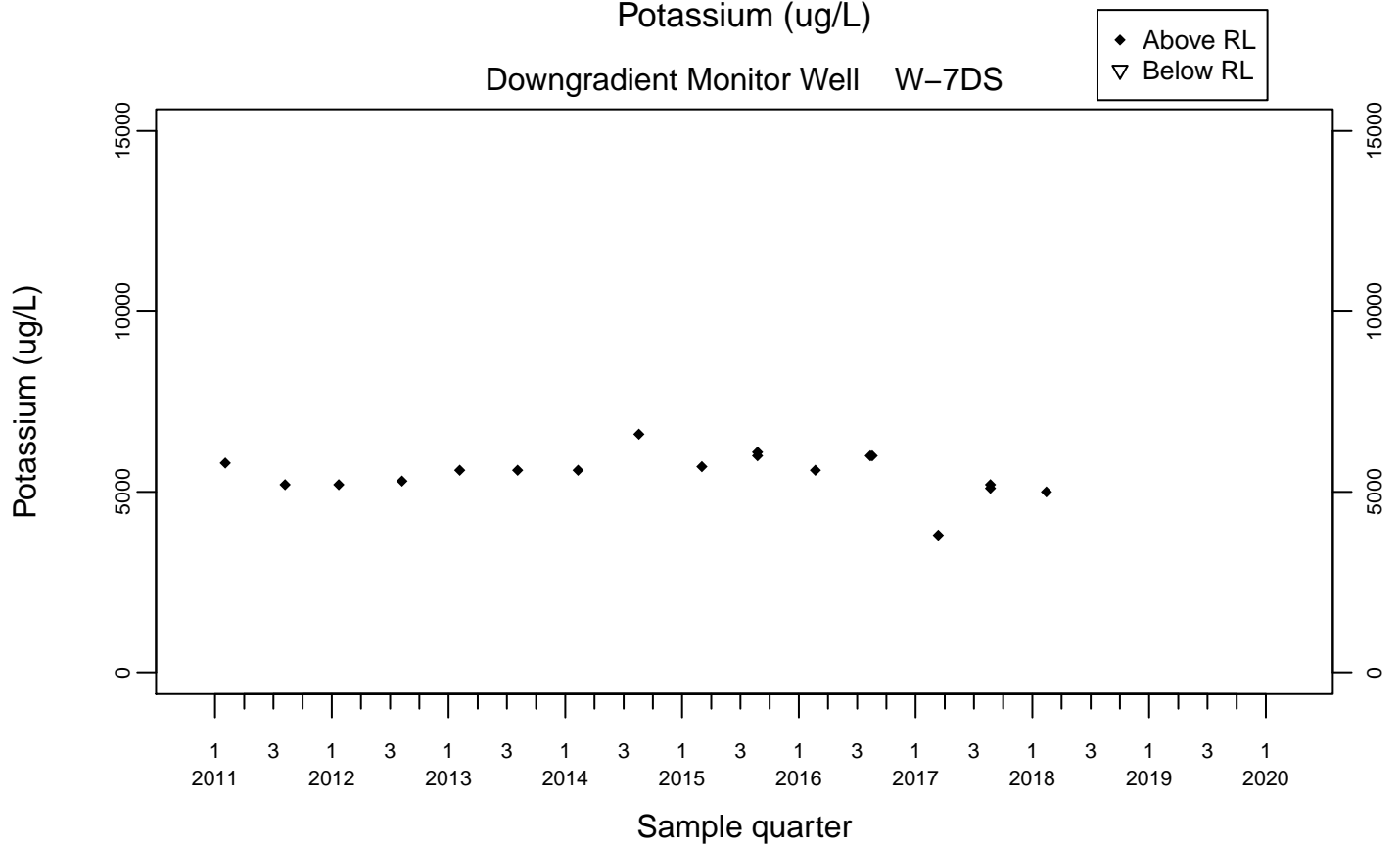


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Potassium (ug/L)

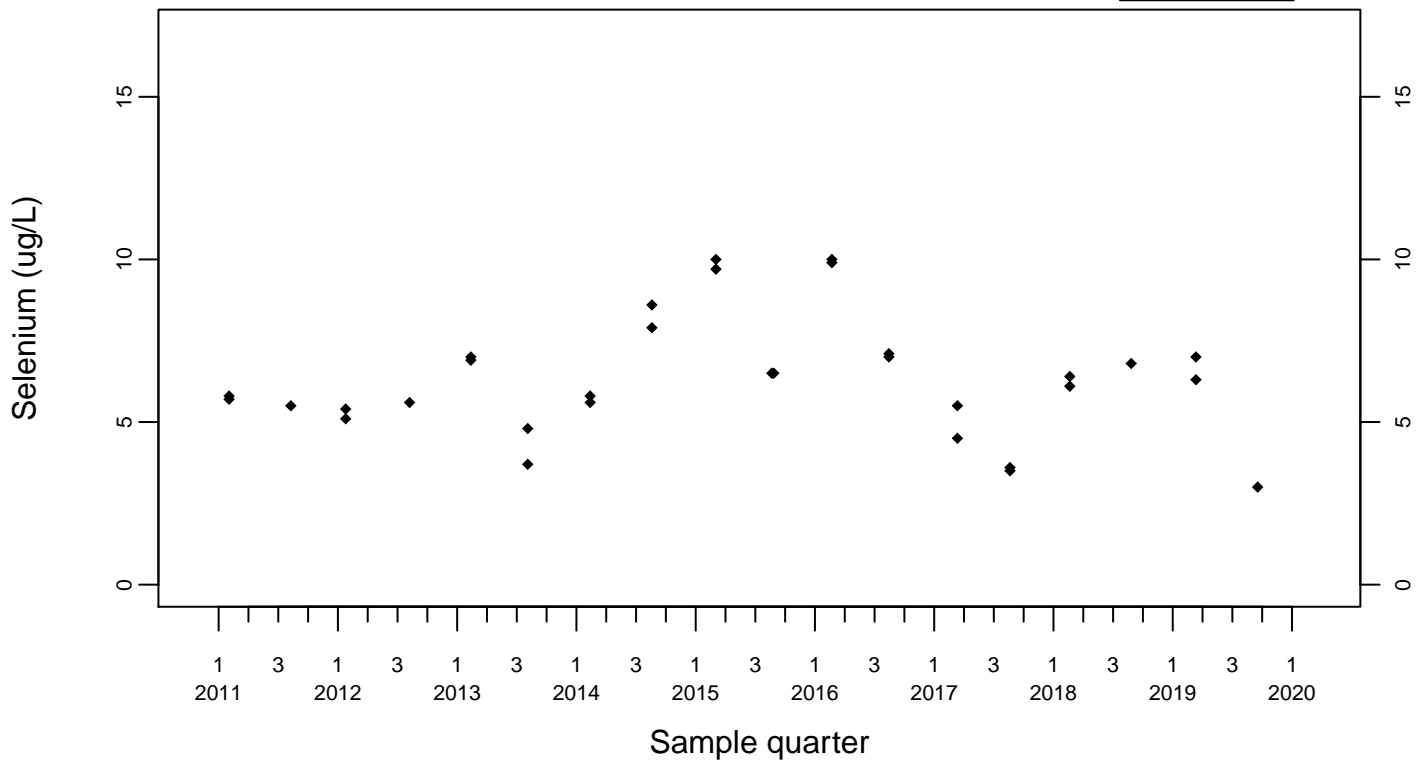
Downgradient Monitor Well W-7DS



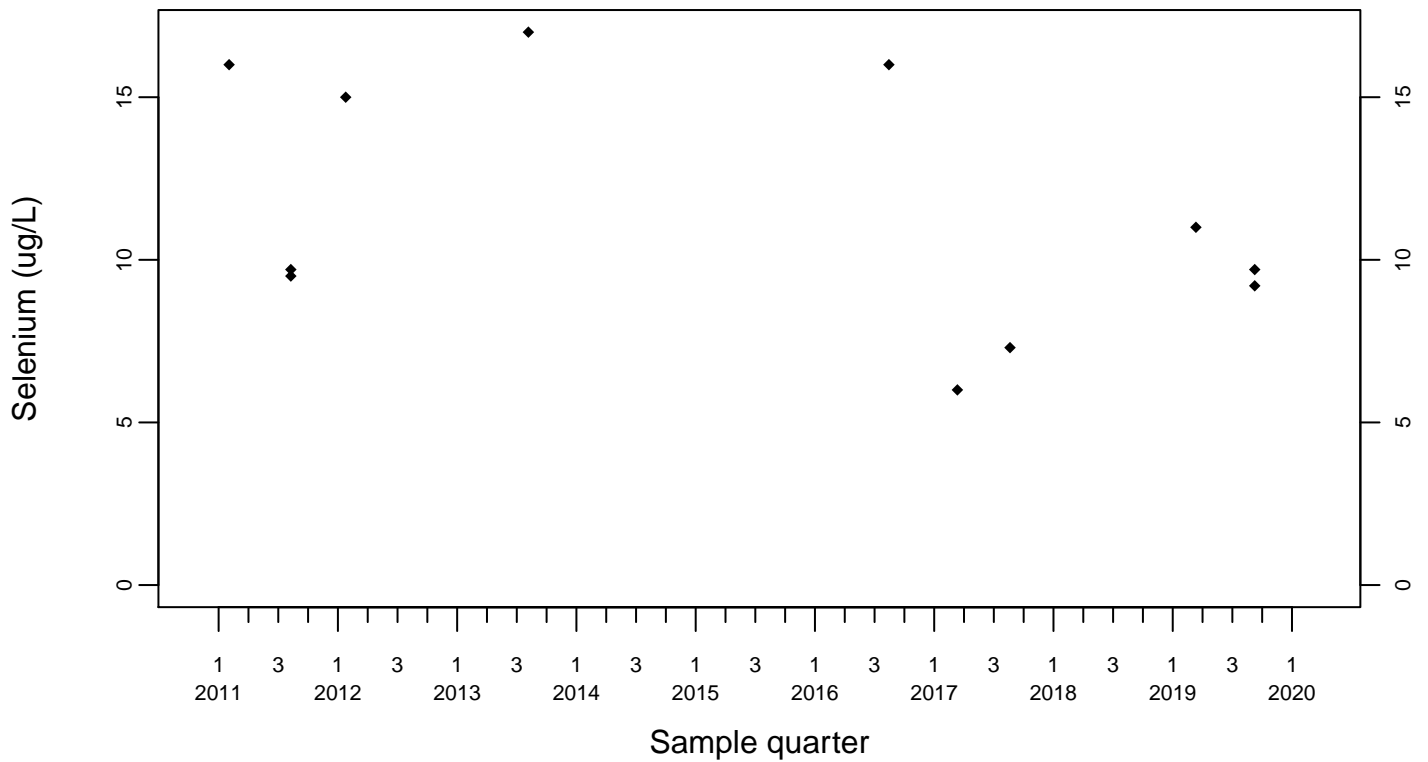
Sewage Ponds Ground Water
Selenium (ug/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



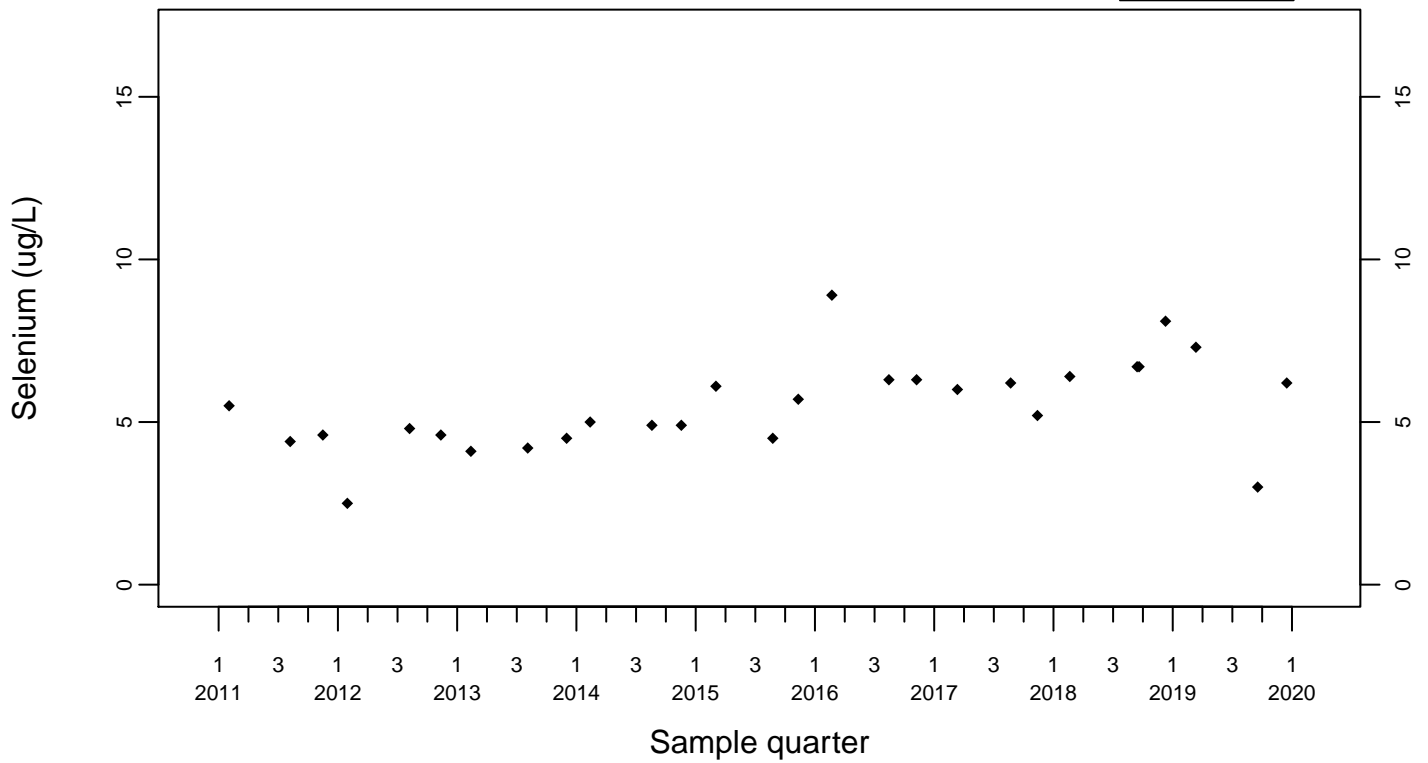
Upgradient Monitor Well W-7PS



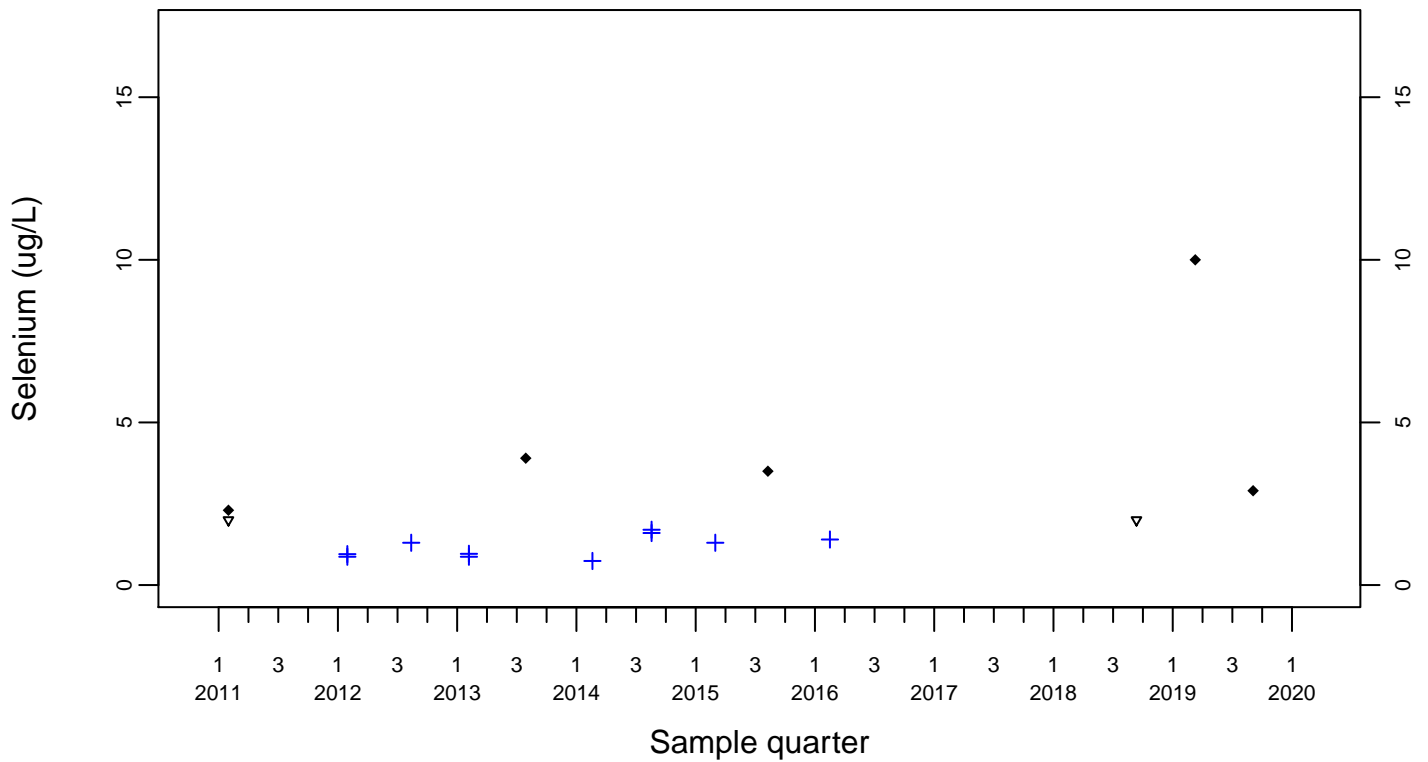
Sewage Ponds Ground Water
Selenium (ug/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



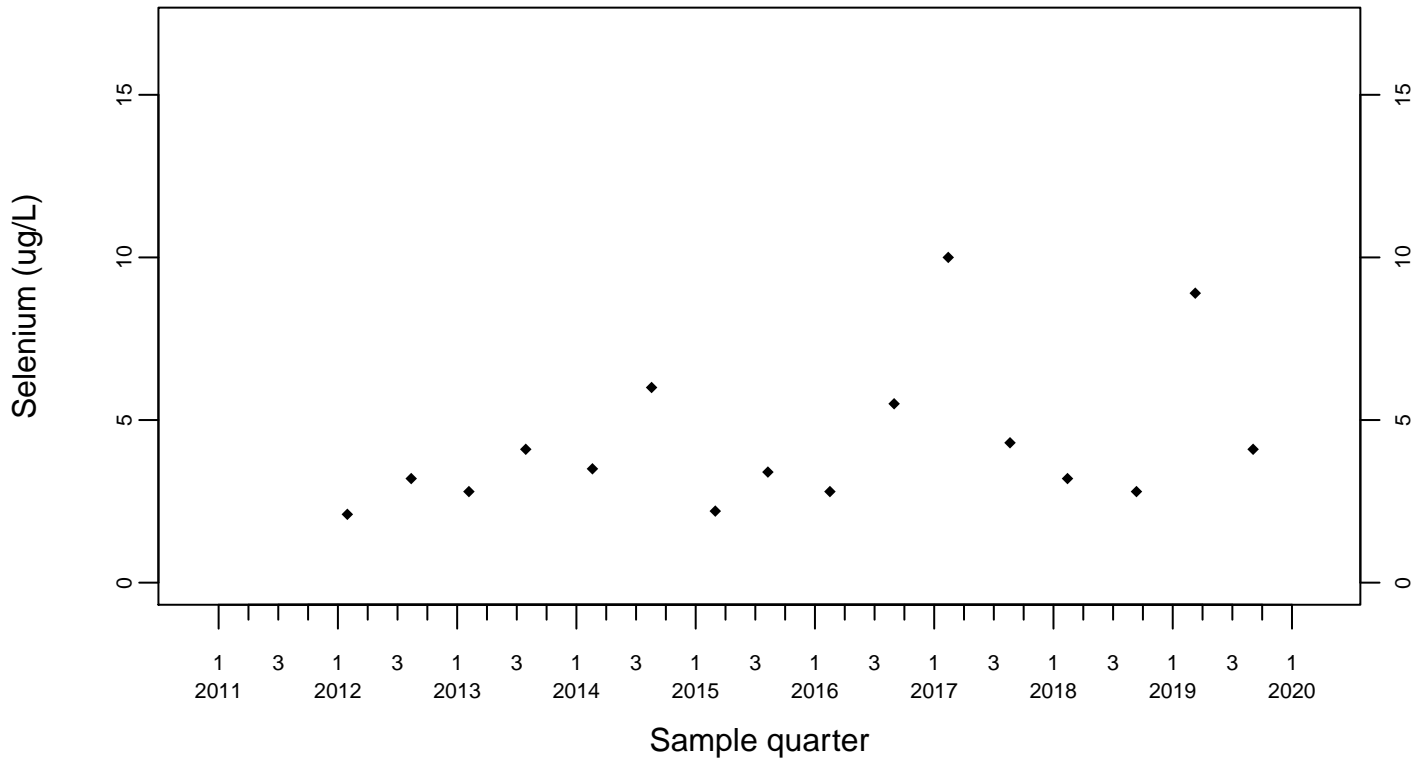
Downgradient Monitor Well W-25N-23



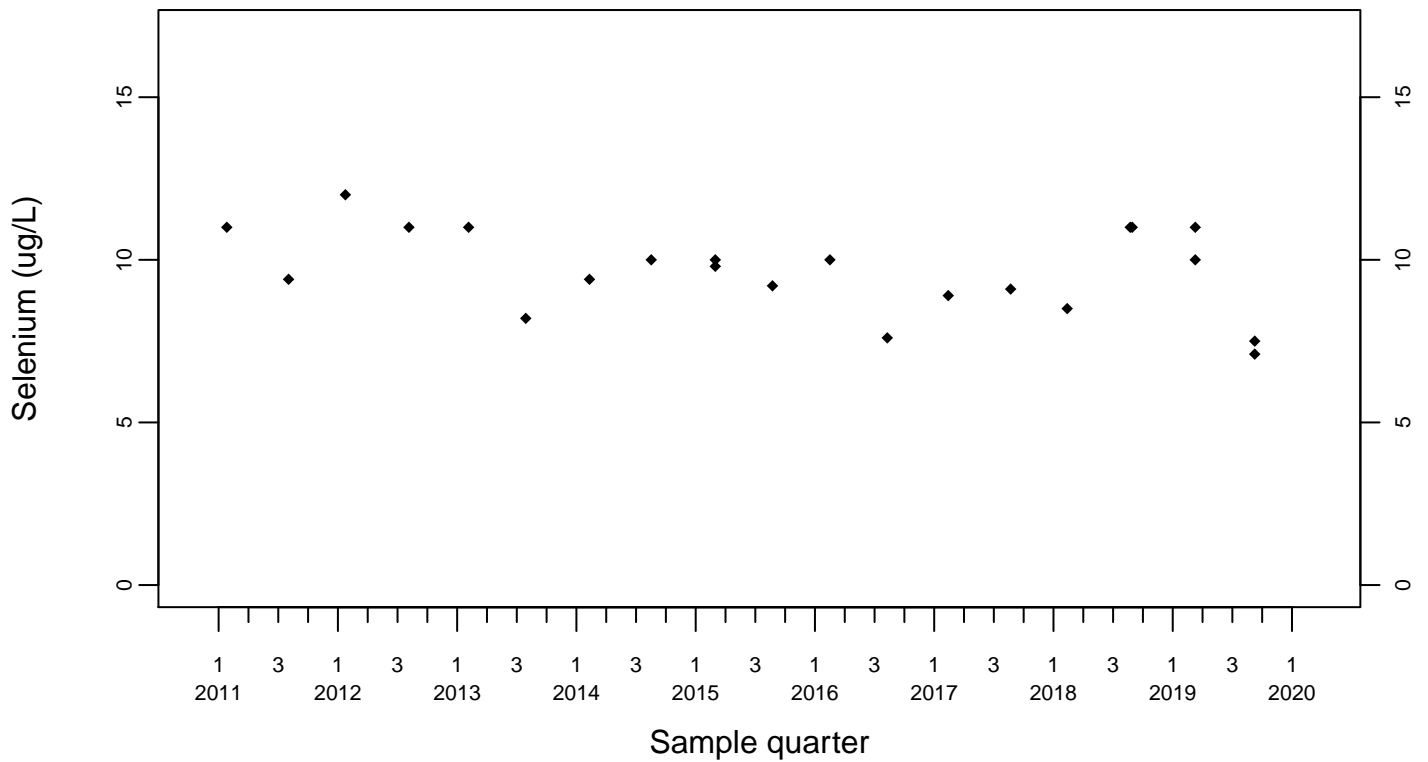
Sewage Ponds Ground Water
Selenium (ug/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



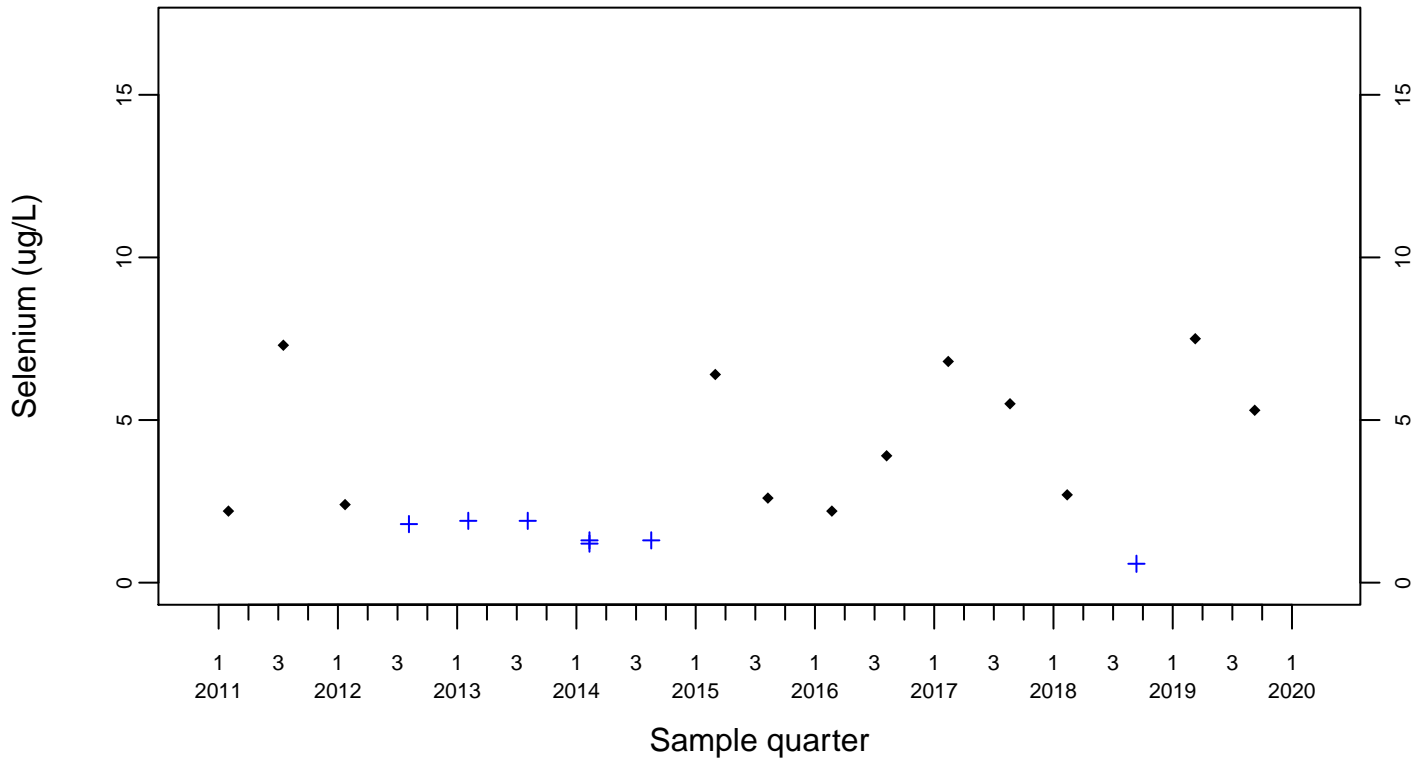
Downgradient Monitor Well W-26R-01



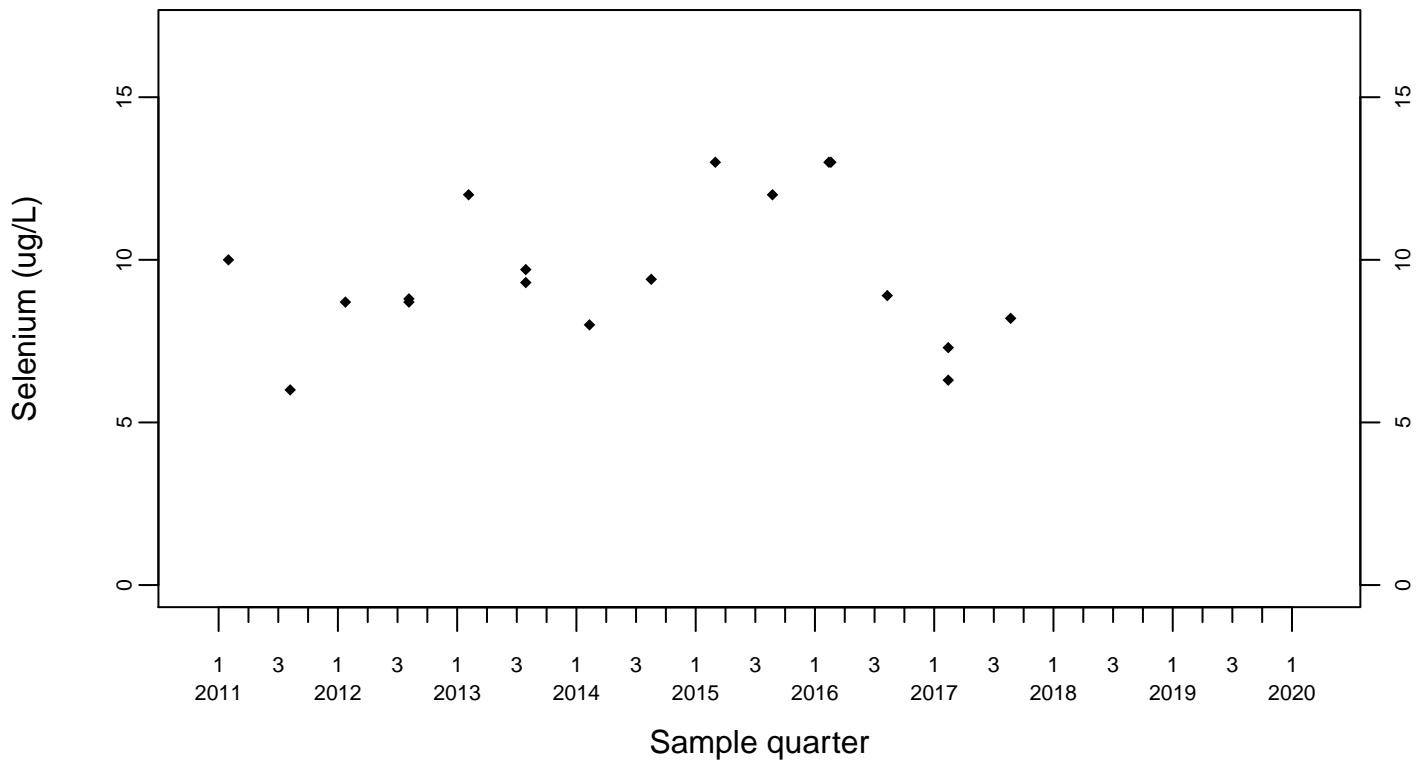
Sewage Ponds Ground Water
Selenium (ug/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
+ Estimated



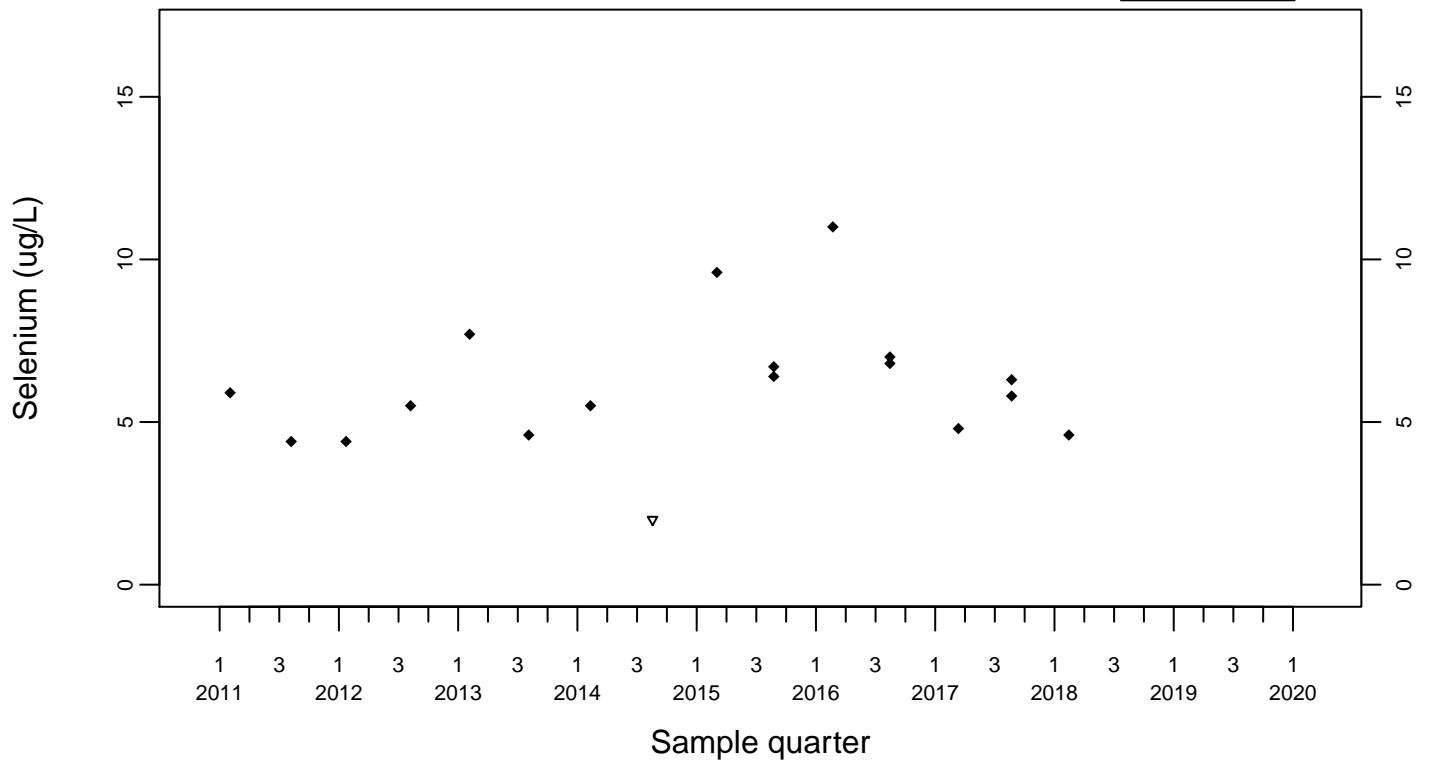
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Selenium (ug/L)

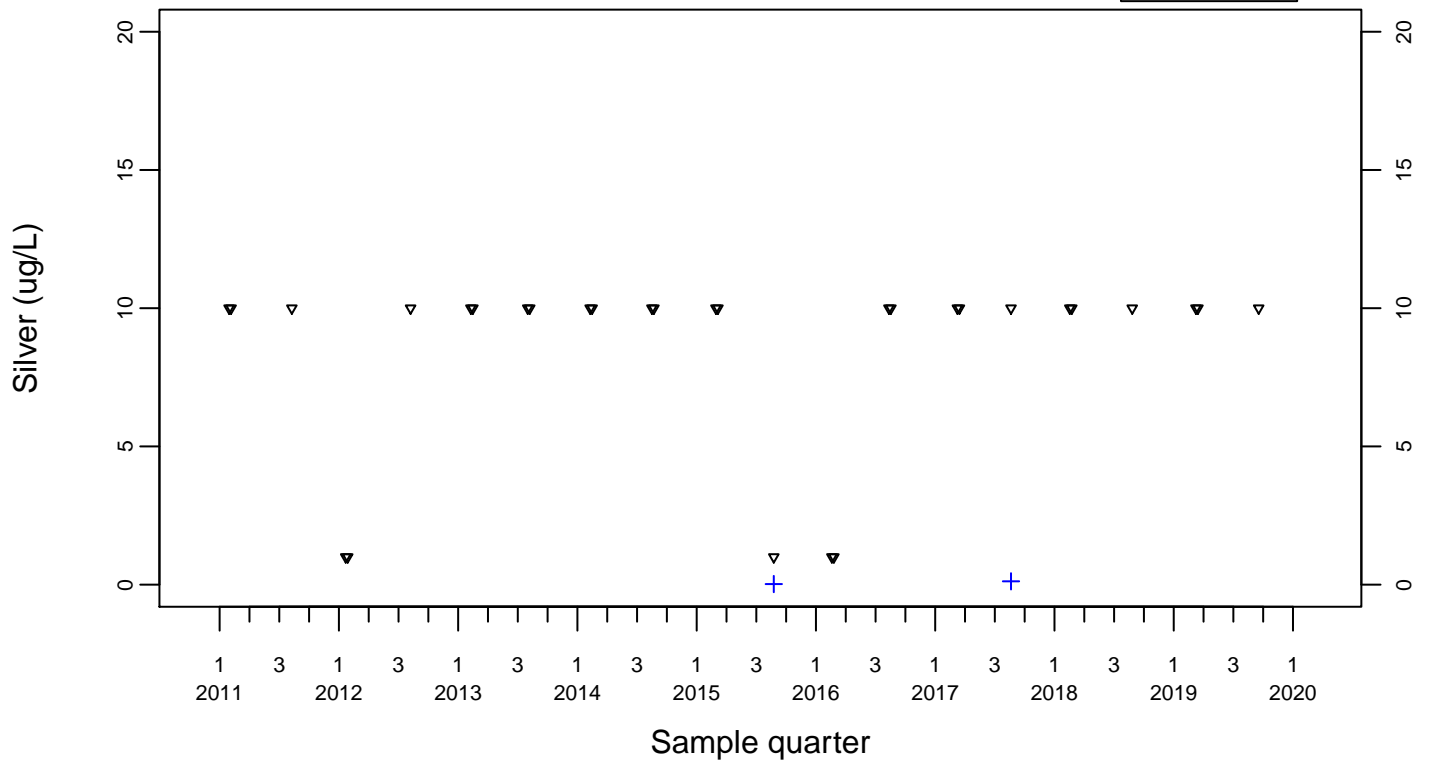
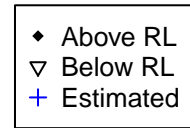
Downgradient Monitor Well W-7DS

◆ Above RL
▽ Below RL

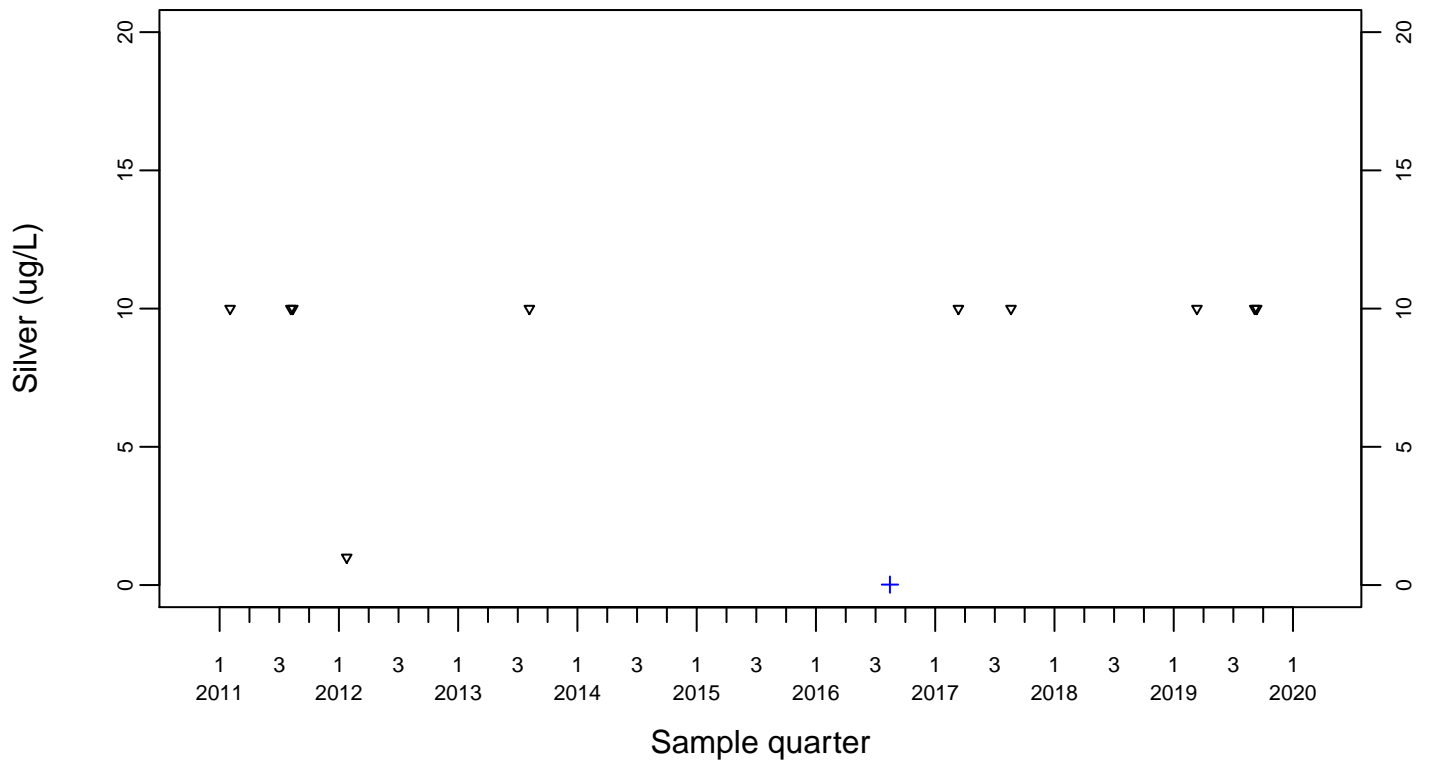


Sewage Ponds Ground Water
Silver (ug/L)

Upgradient Monitor Well W-7ES

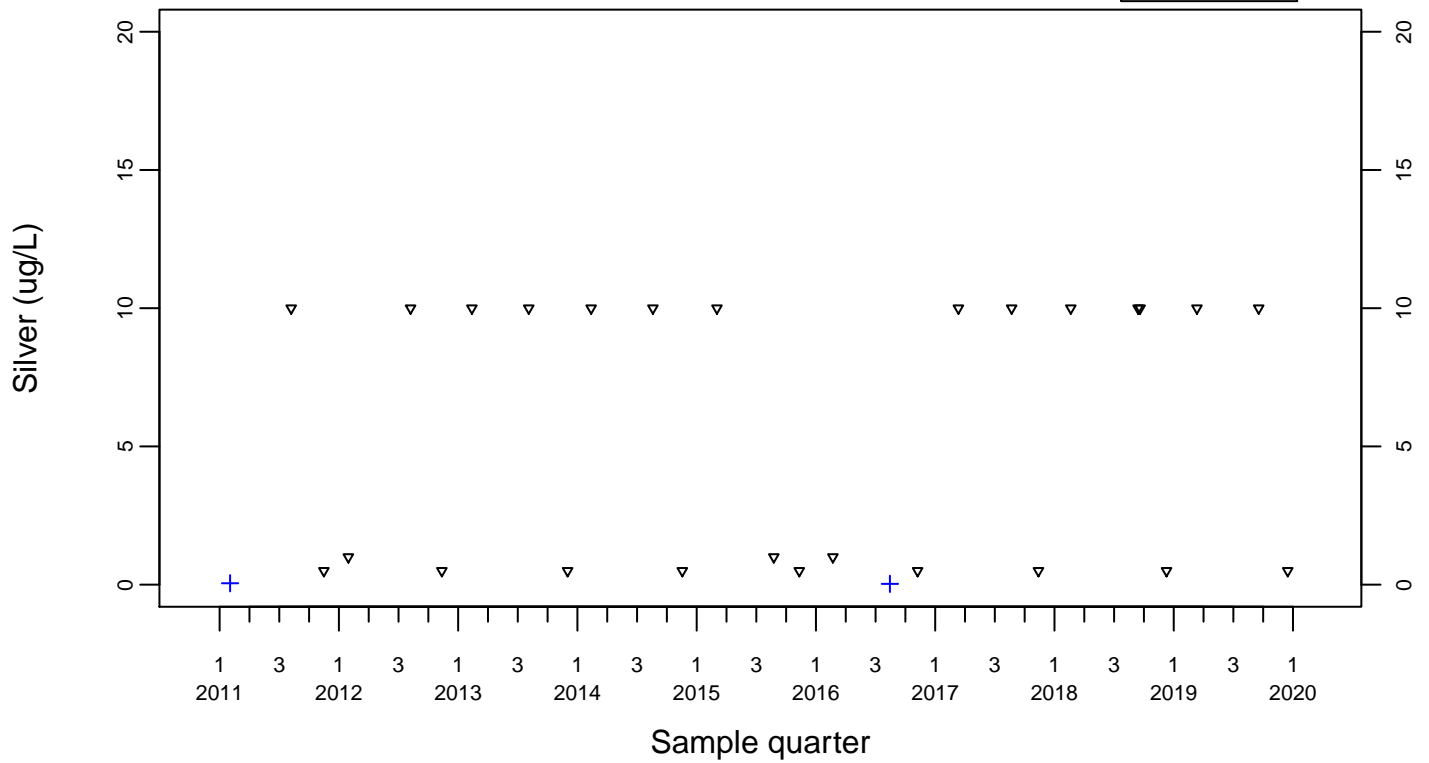
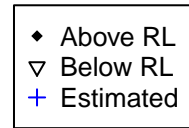


Upgradient Monitor Well W-7PS

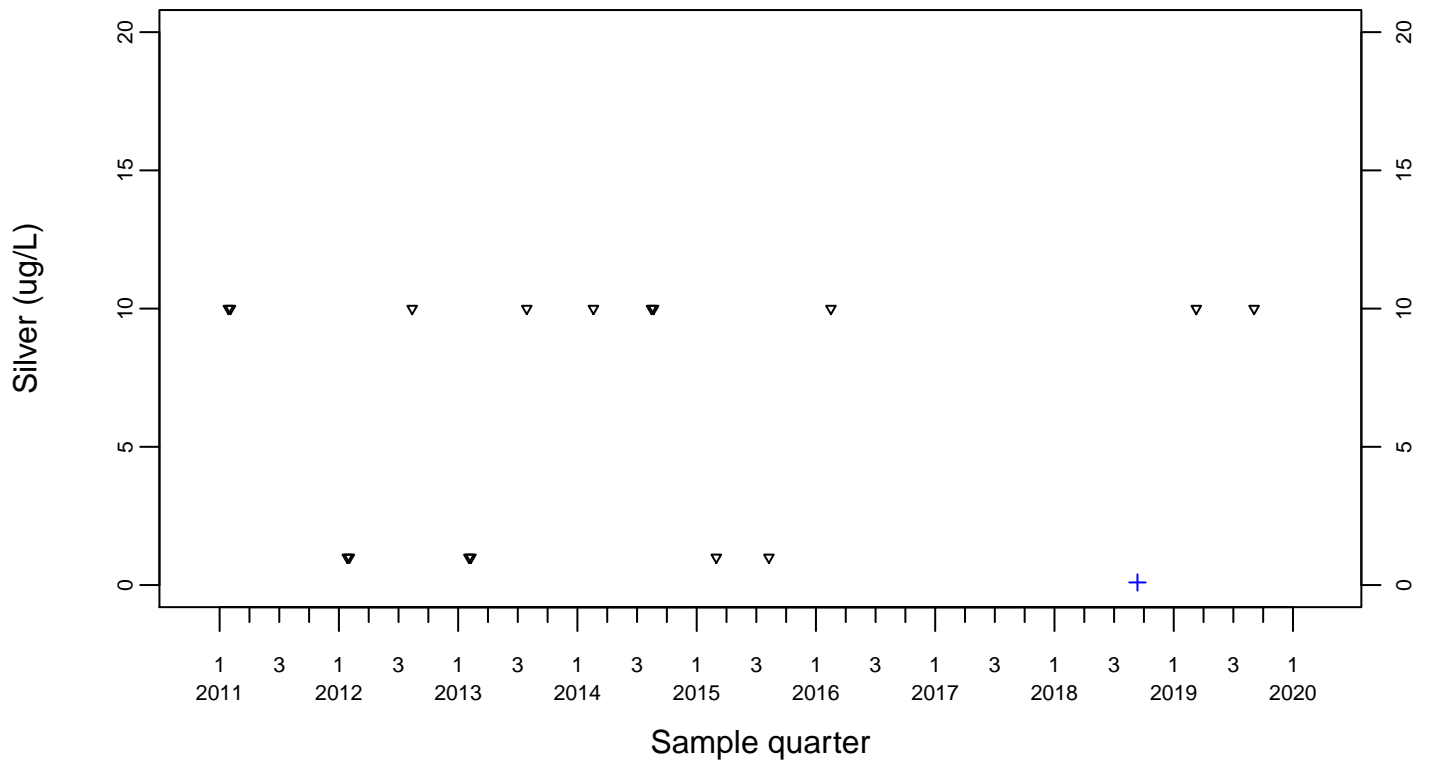


Sewage Ponds Ground Water
Silver (ug/L)

Crossgradient Monitor Well W-35A-04

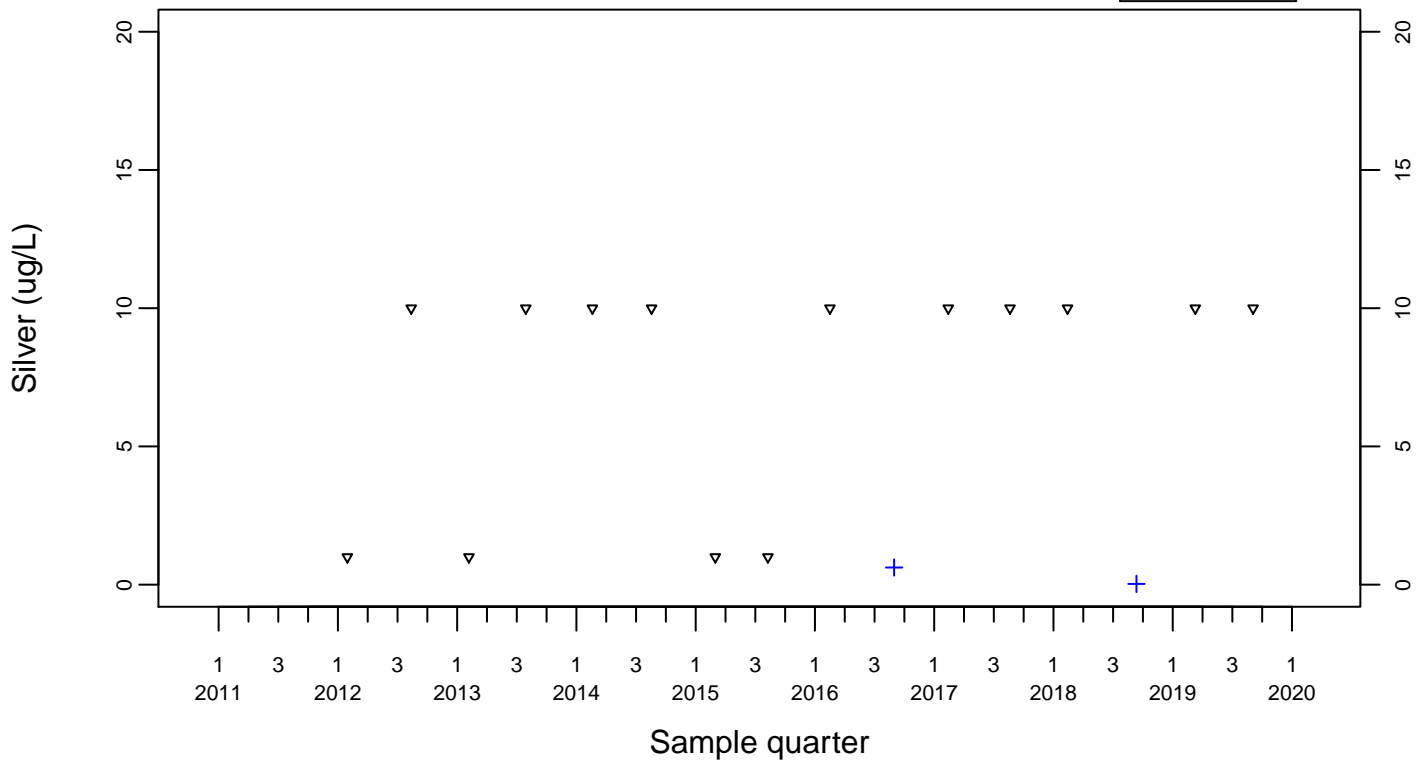
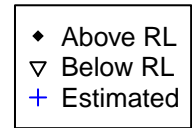


Downgradient Monitor Well W-25N-23

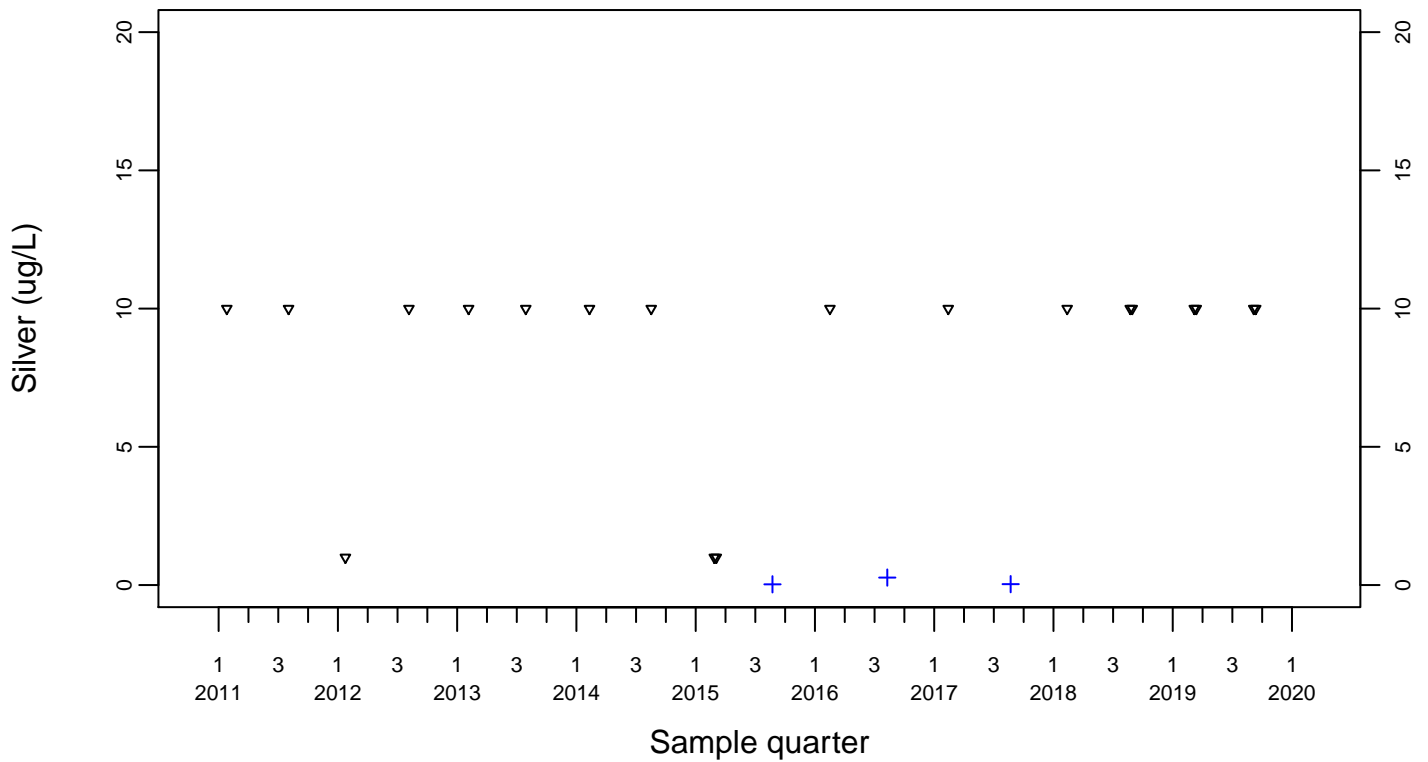


Sewage Ponds Ground Water
Silver (ug/L)

Downgradient Monitor Well W-25N-22

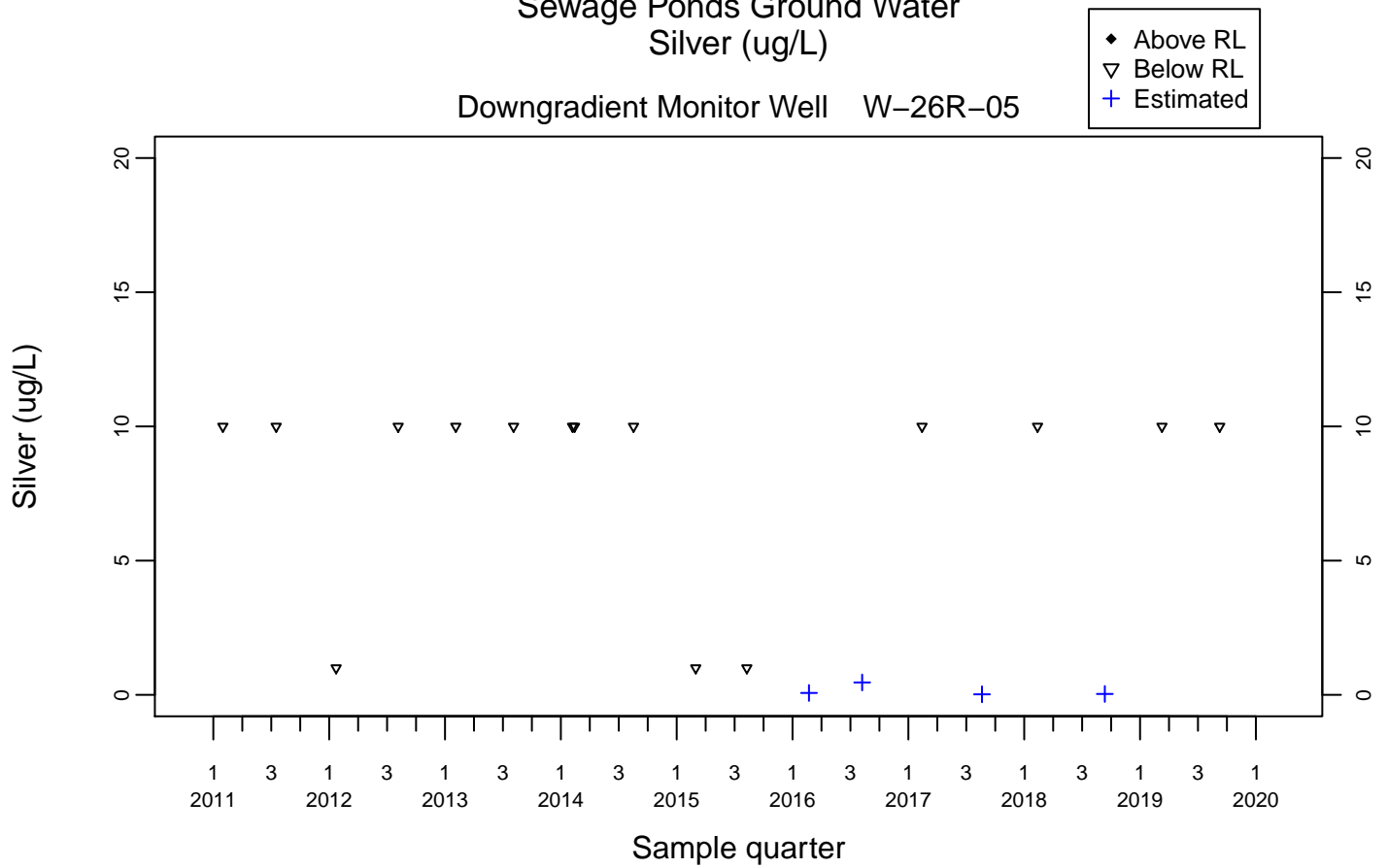


Downgradient Monitor Well W-26R-01

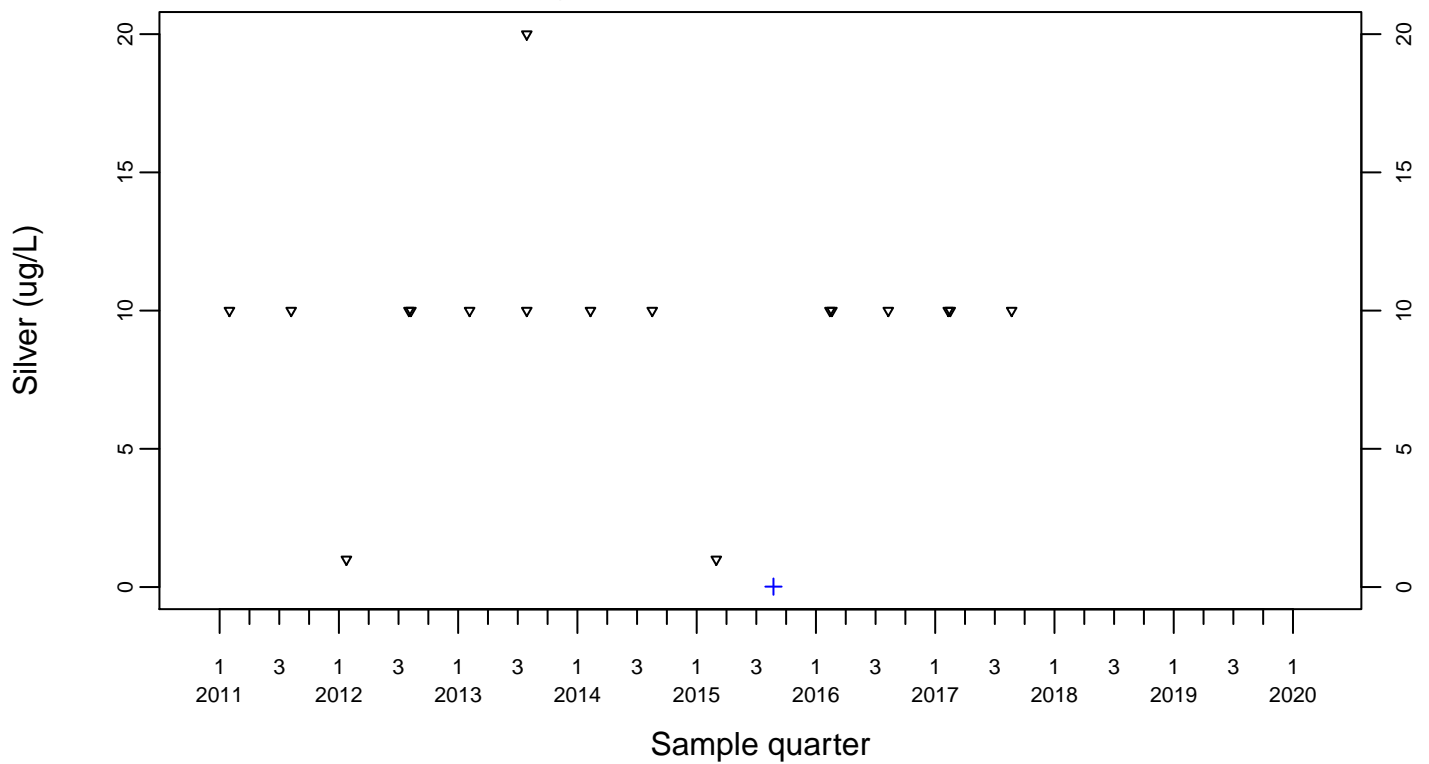


Sewage Ponds Ground Water
Silver (ug/L)

Downgradient Monitor Well W-26R-05

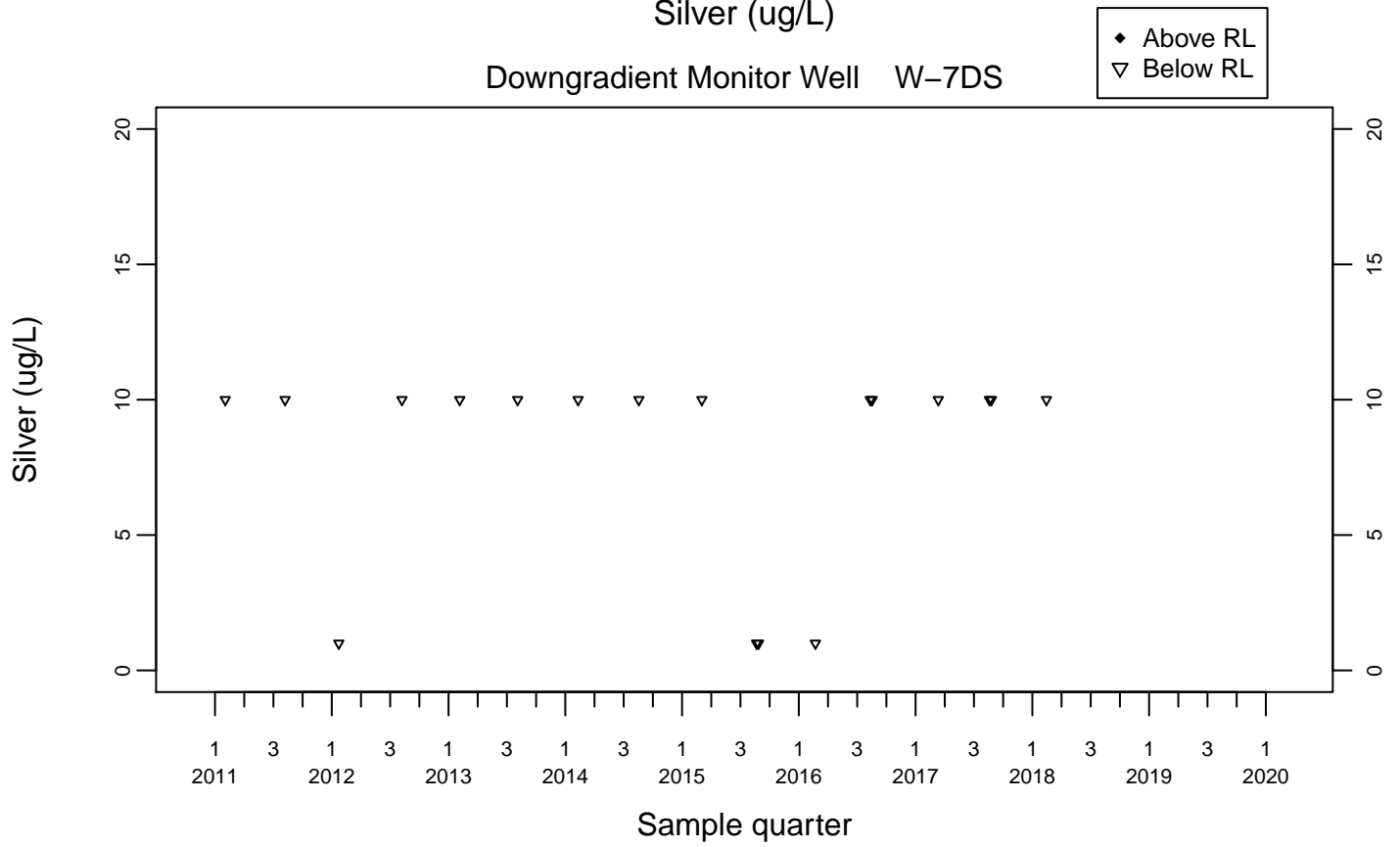


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Silver (ug/L)

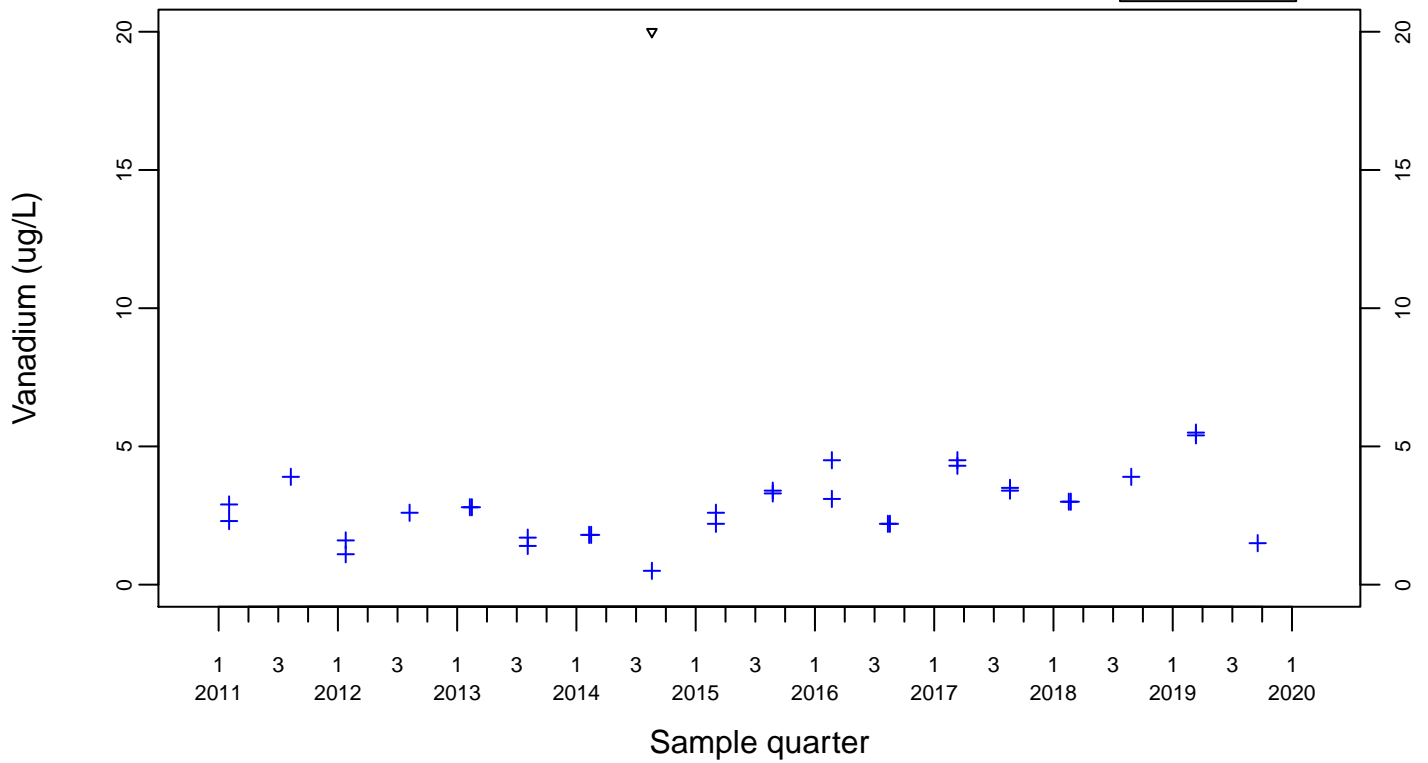
Downgradient Monitor Well W-7DS



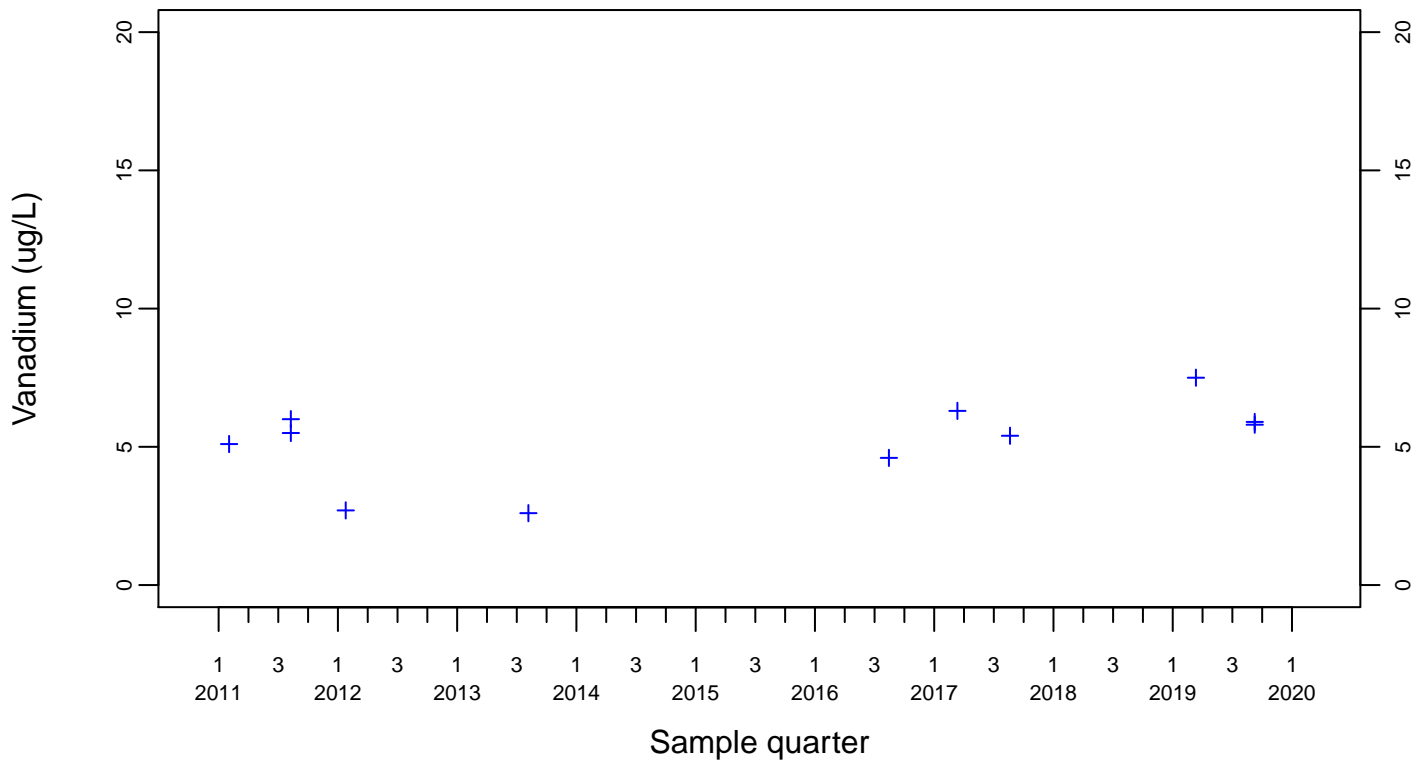
Sewage Ponds Ground Water
Vanadium (ug/L)

Upgradient Monitor Well W-7ES

- ◆ Above RL
- ▽ Below RL
- + Estimated

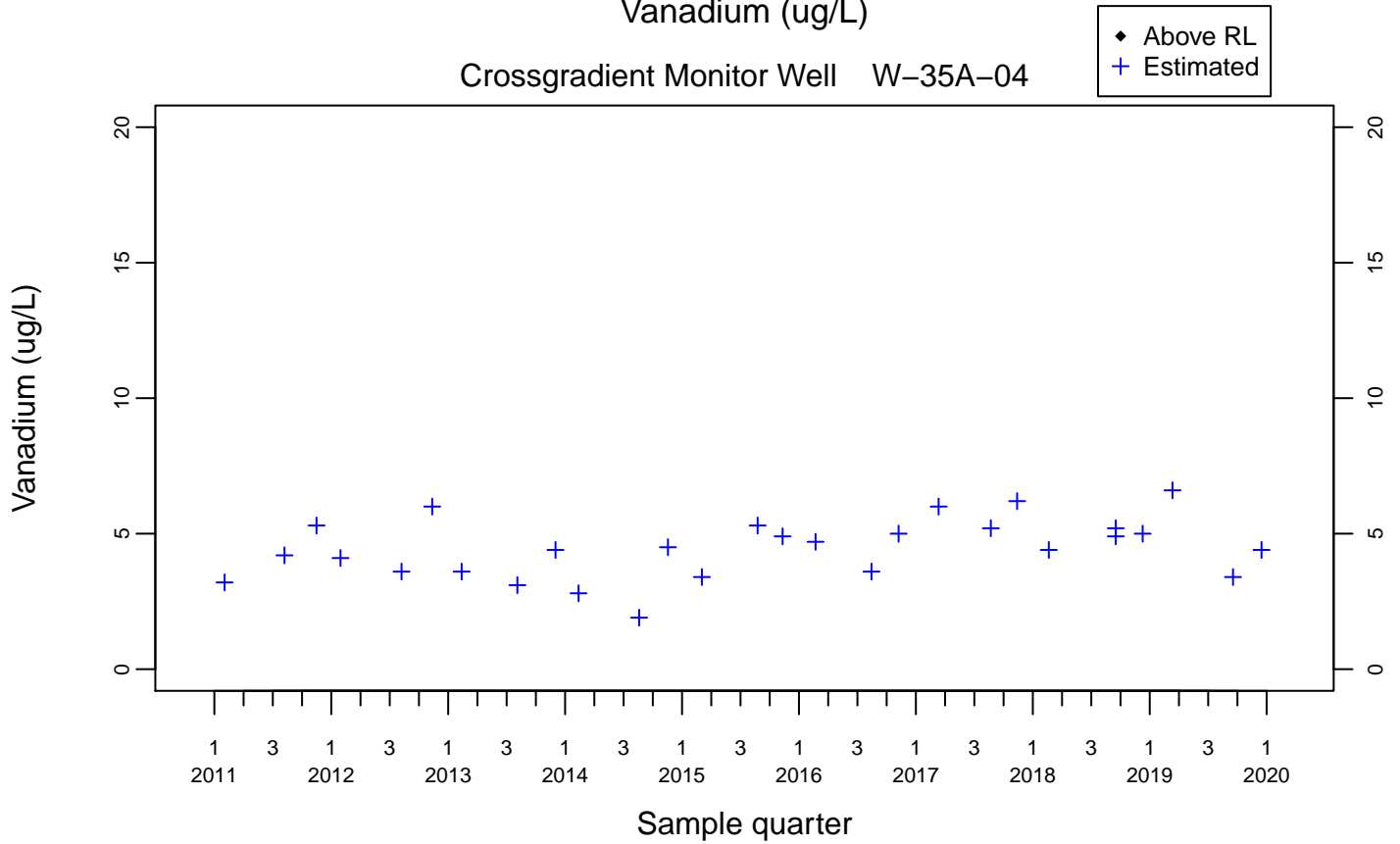


Upgradient Monitor Well W-7PS

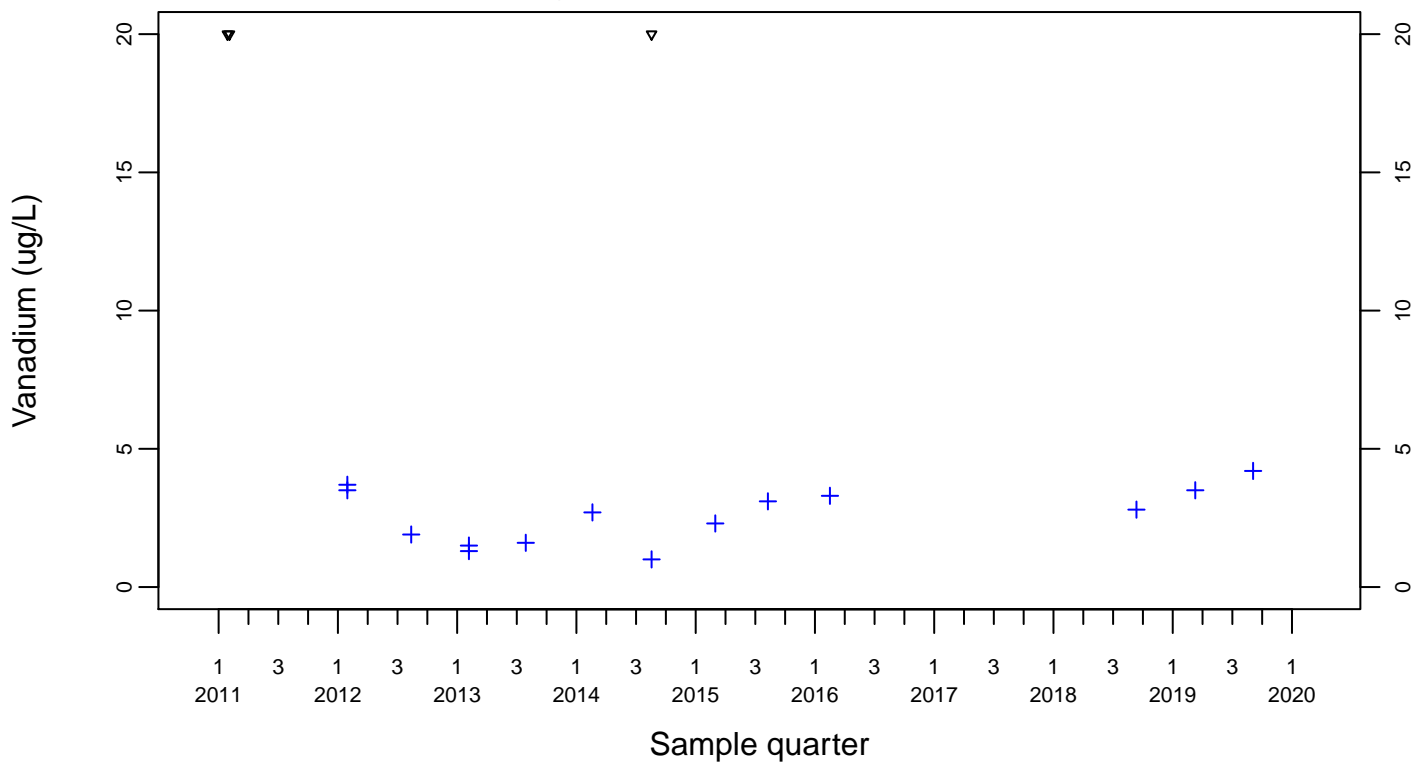


Sewage Ponds Ground Water
Vanadium (ug/L)

Crossgradient Monitor Well W-35A-04

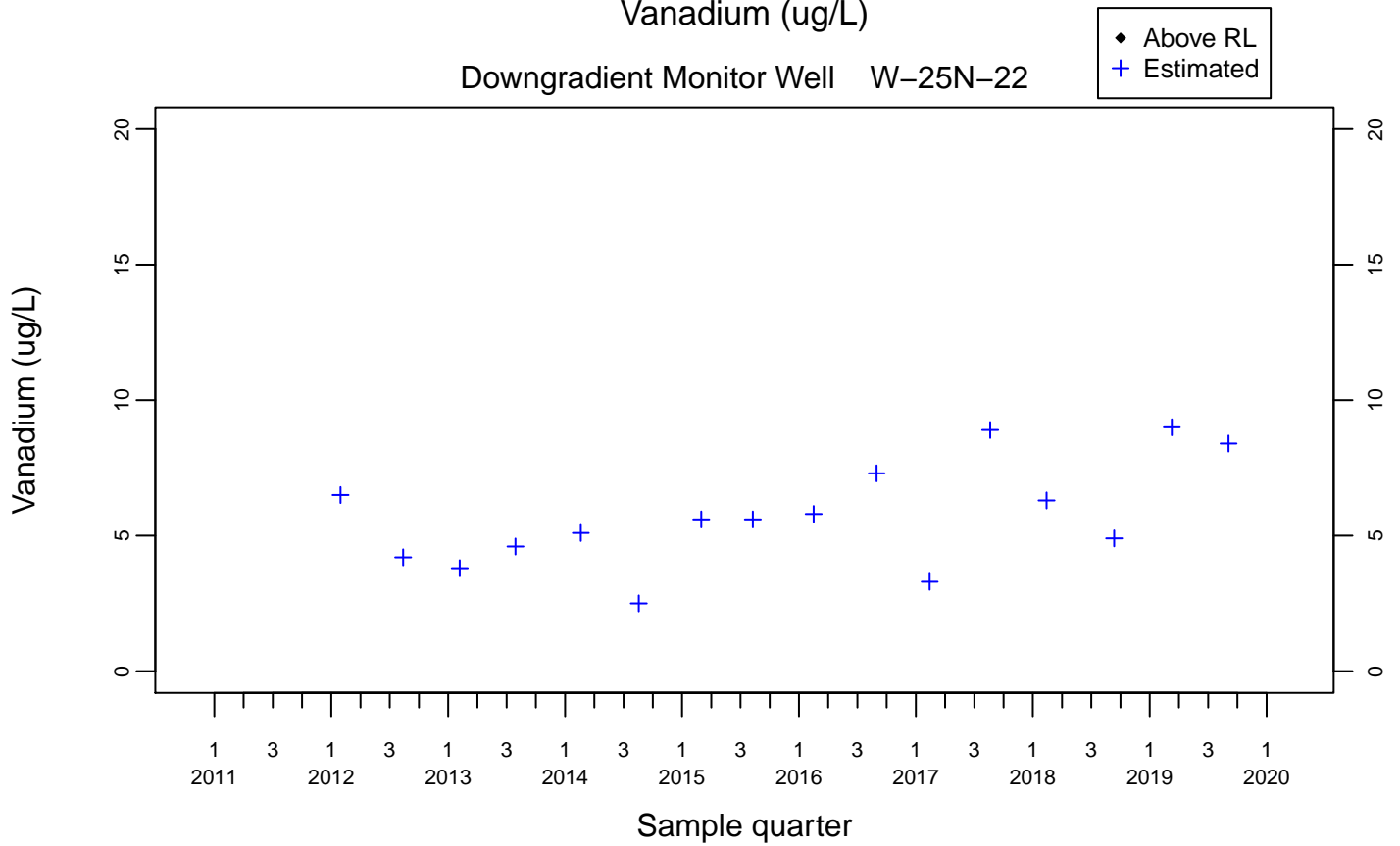


Downgradient Monitor Well W-25N-23

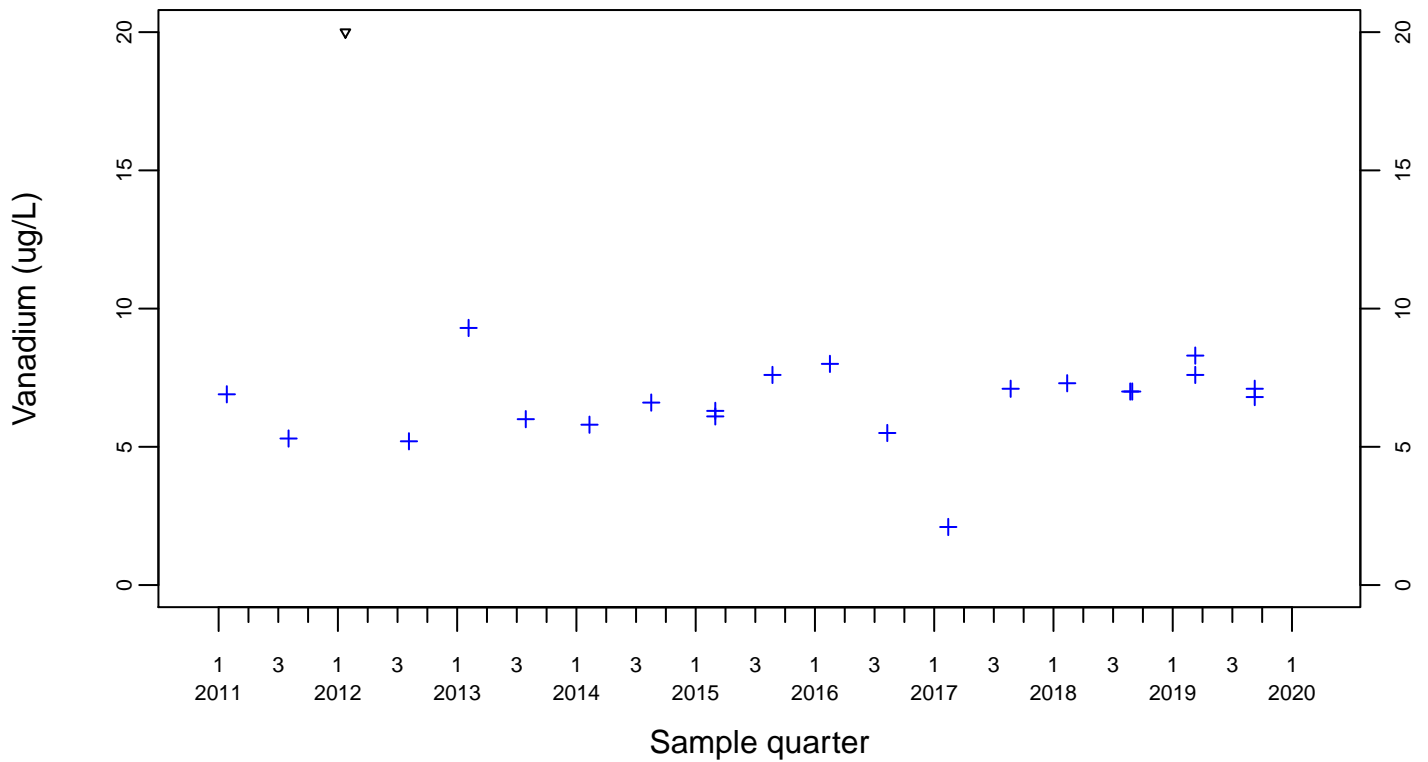


Sewage Ponds Ground Water
Vanadium (ug/L)

Downgradient Monitor Well W-25N-22

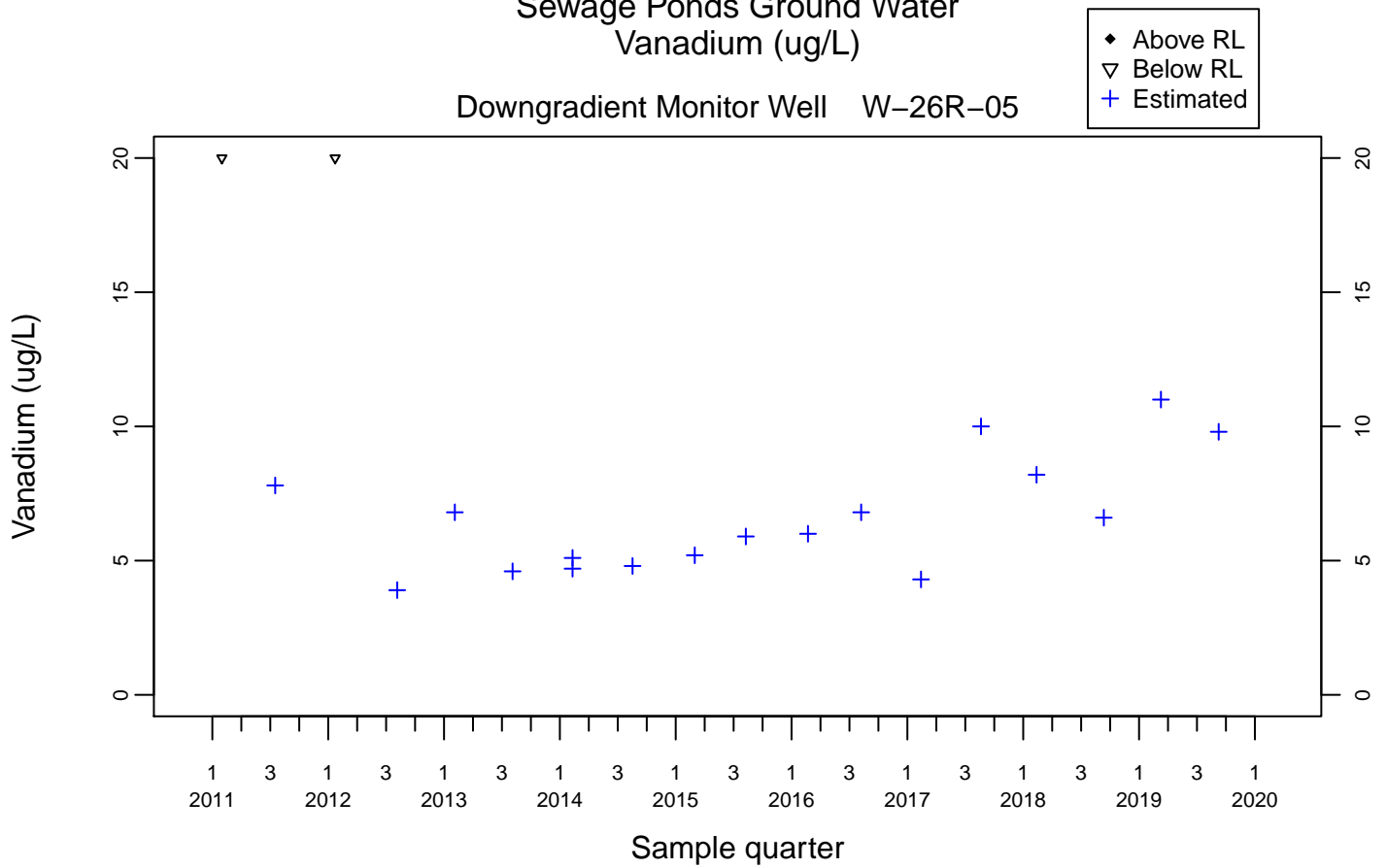


Downgradient Monitor Well W-26R-01

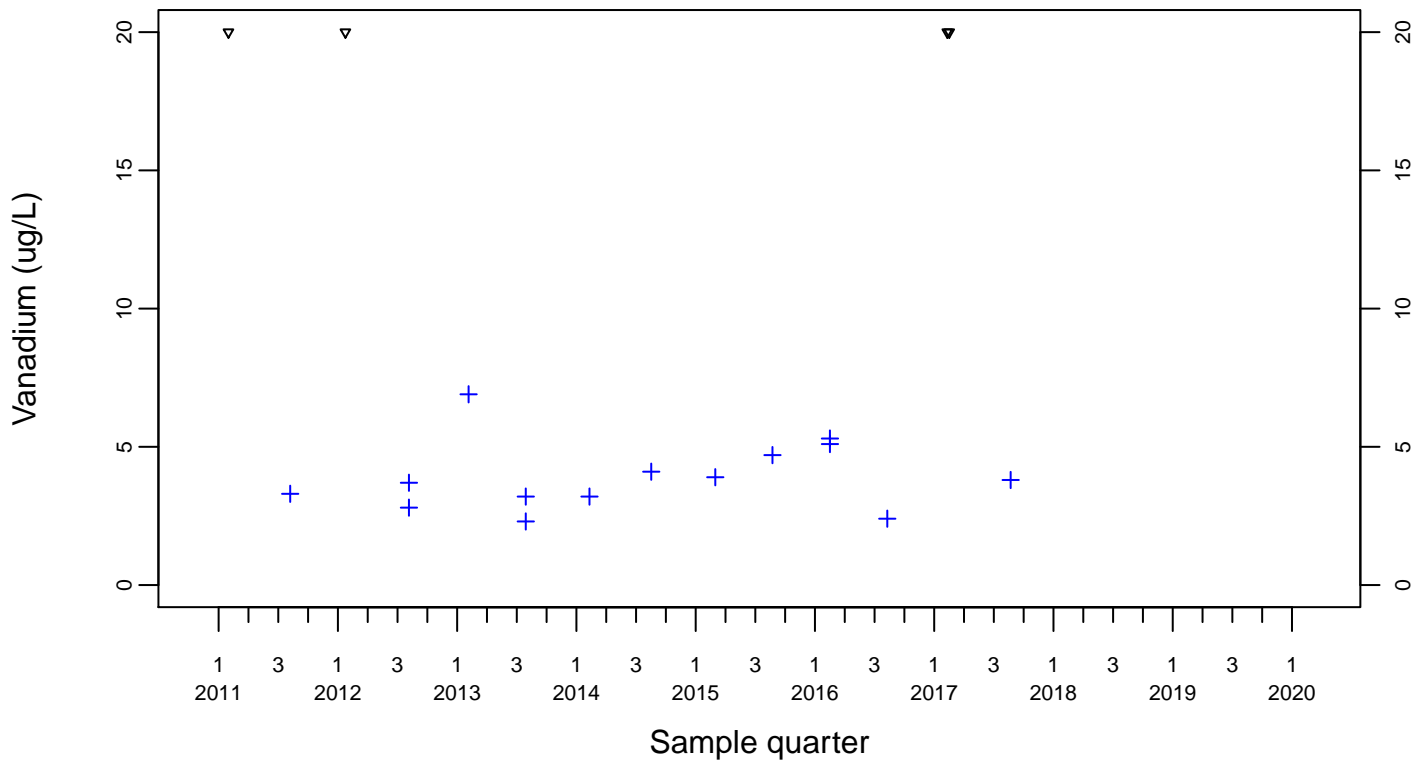


Sewage Ponds Ground Water
Vanadium (ug/L)

Downgradient Monitor Well W-26R-05

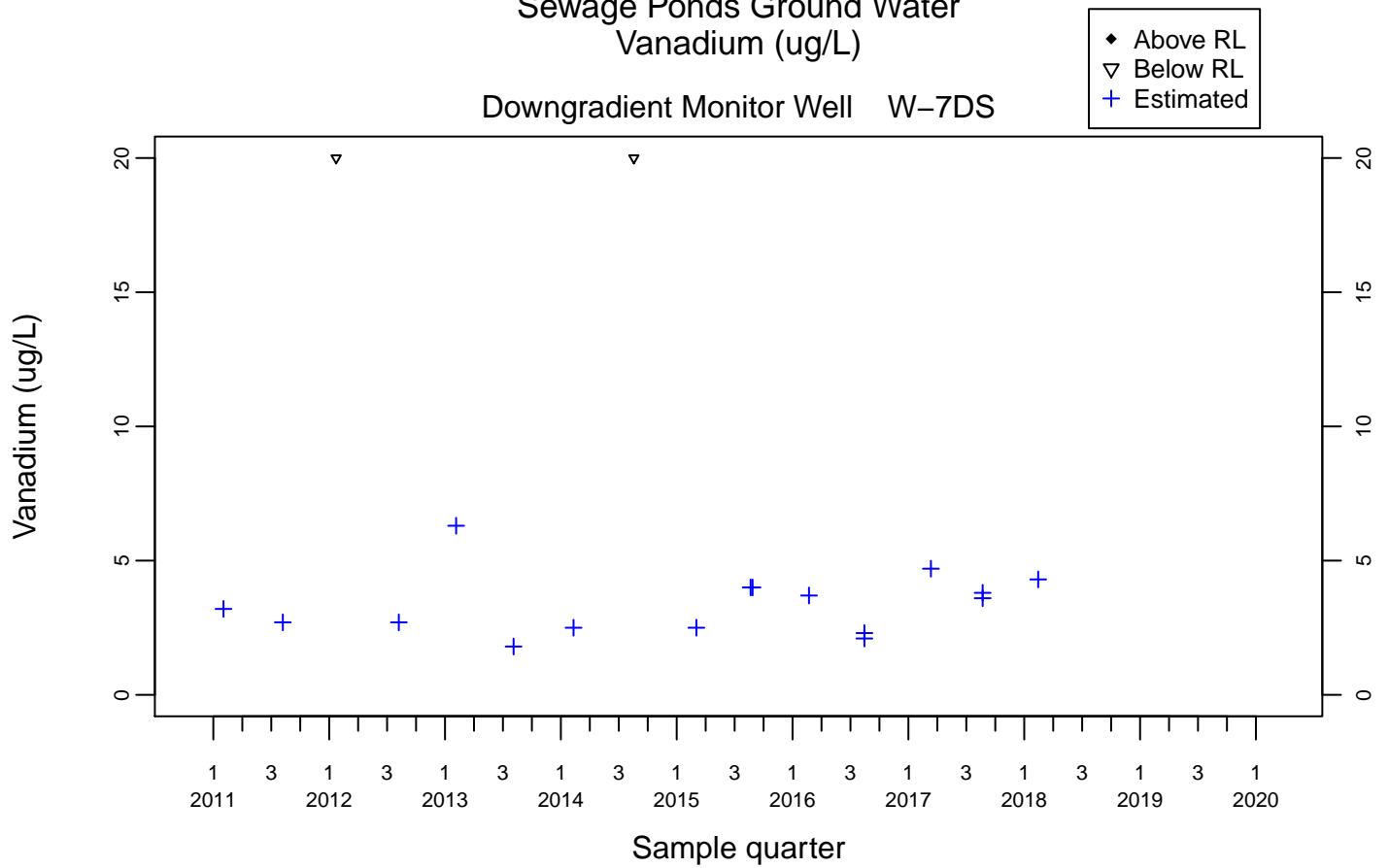


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Vanadium (ug/L)

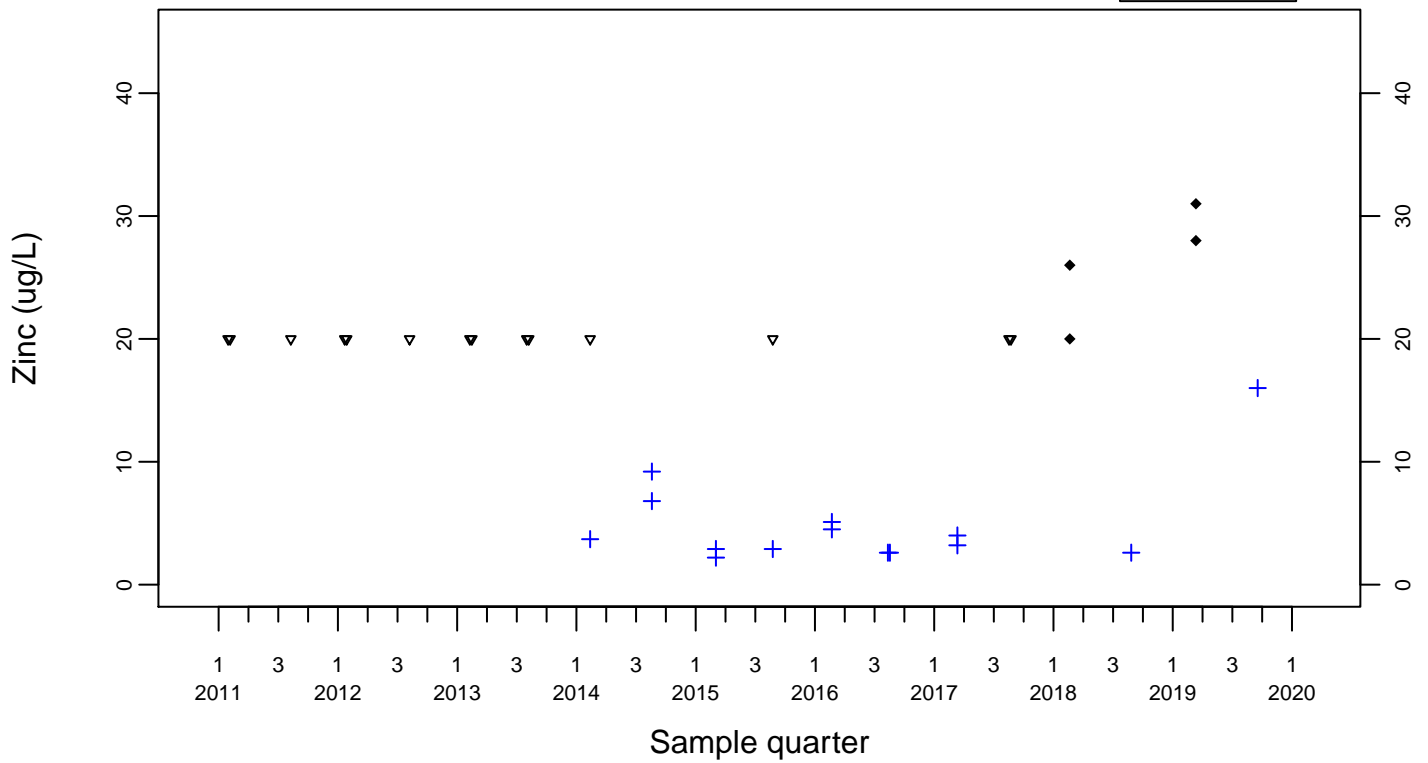
Downgradient Monitor Well W-7DS



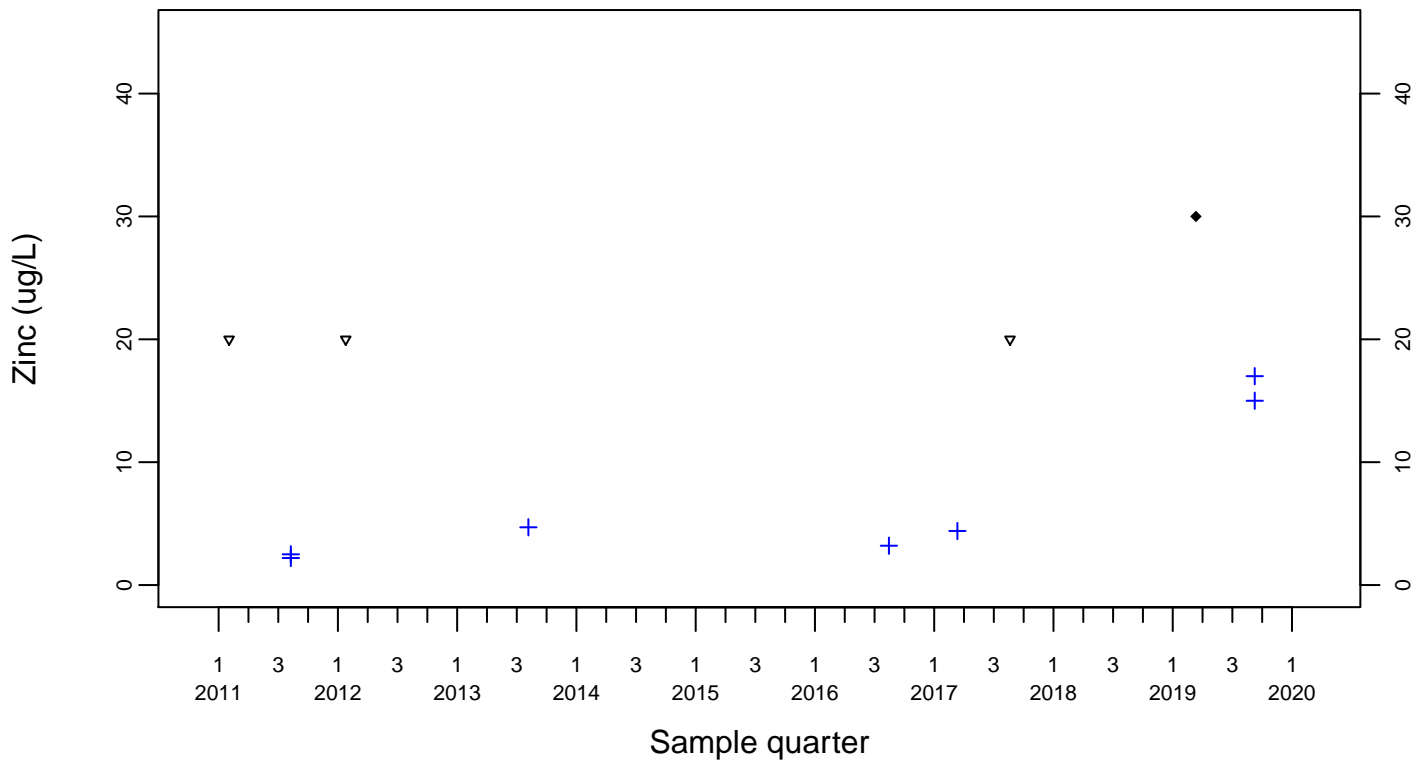
Sewage Ponds Ground Water
Zinc (ug/L)

Upgradient Monitor Well W-7ES

- ◆ Above RL
- ▽ Below RL
- + Estimated



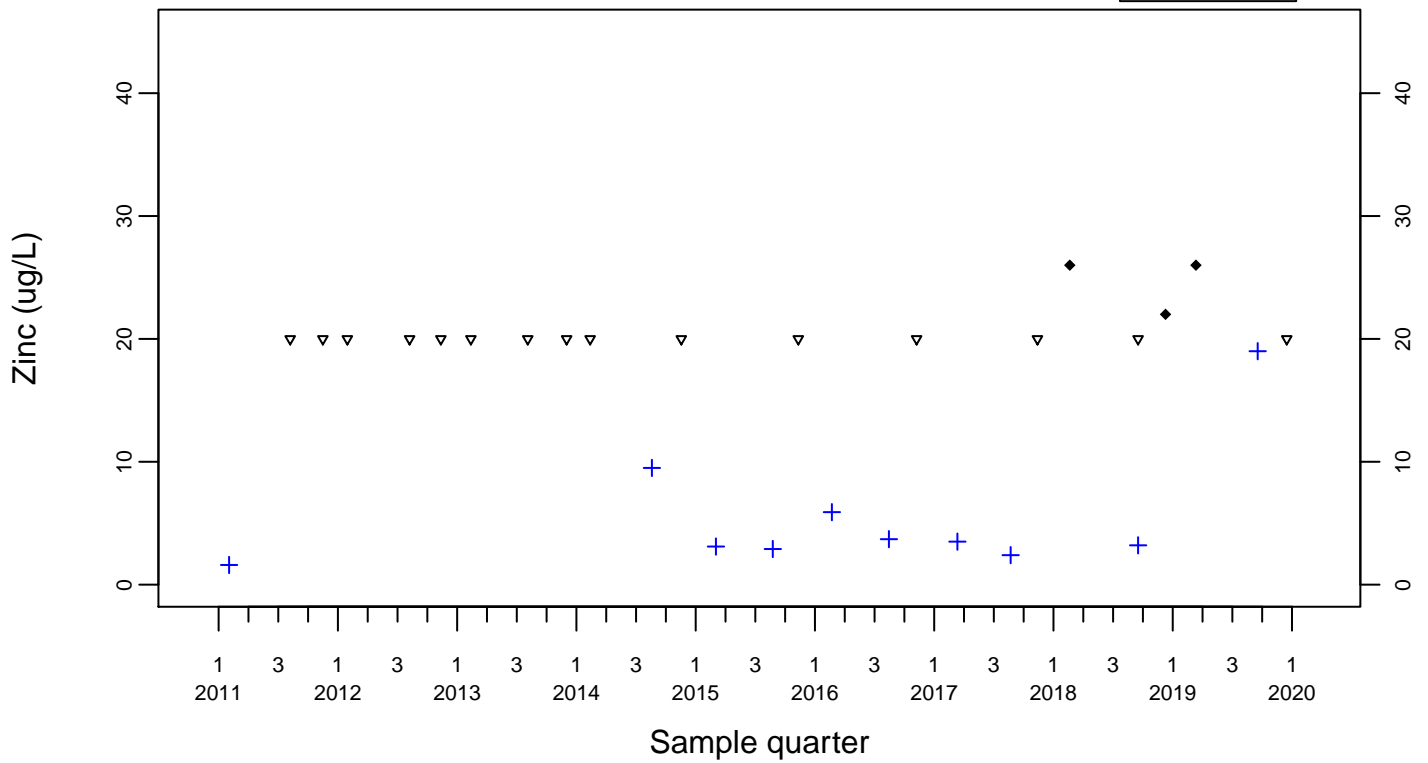
Upgradient Monitor Well W-7PS



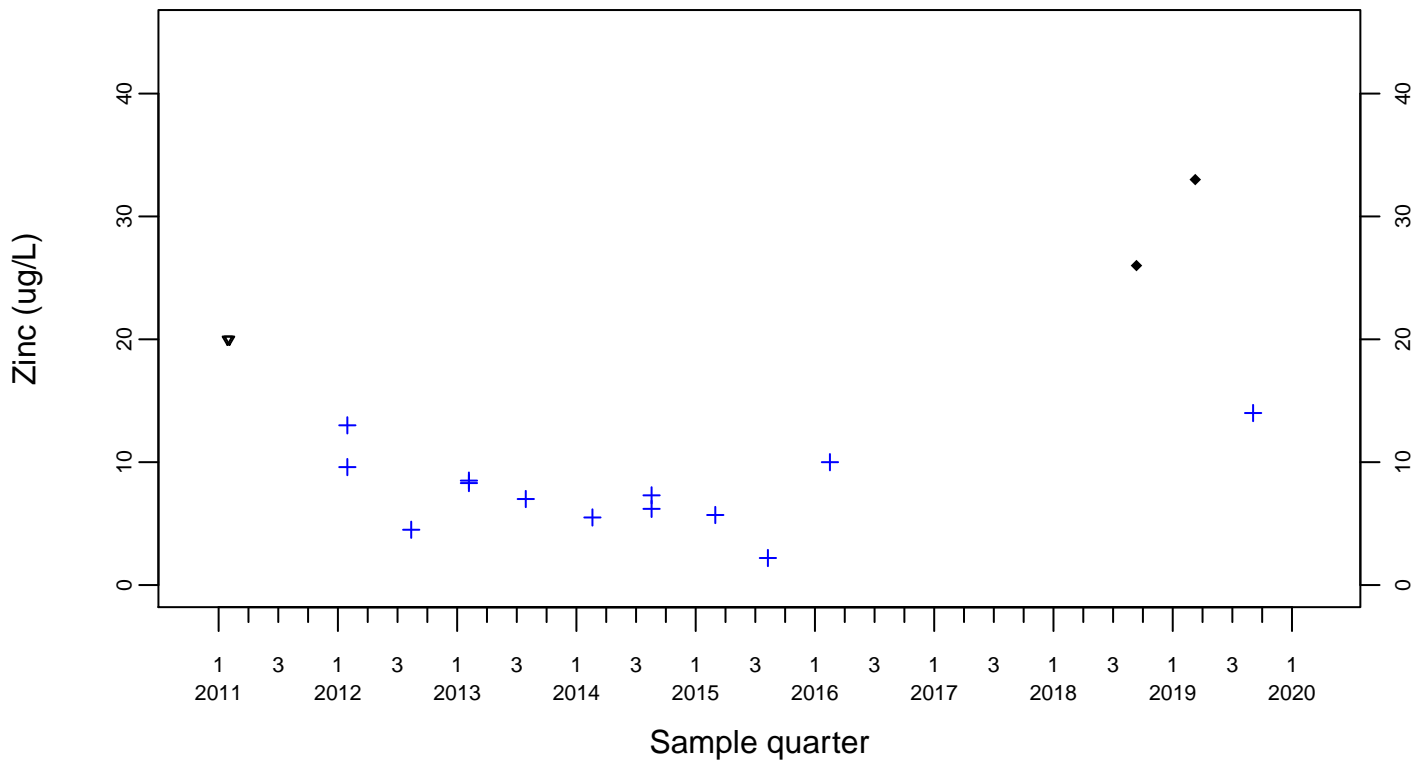
Sewage Ponds Ground Water
Zinc (ug/L)

Crossgradient Monitor Well W-35A-04

- ◆ Above RL
- ▽ Below RL
- + Estimated

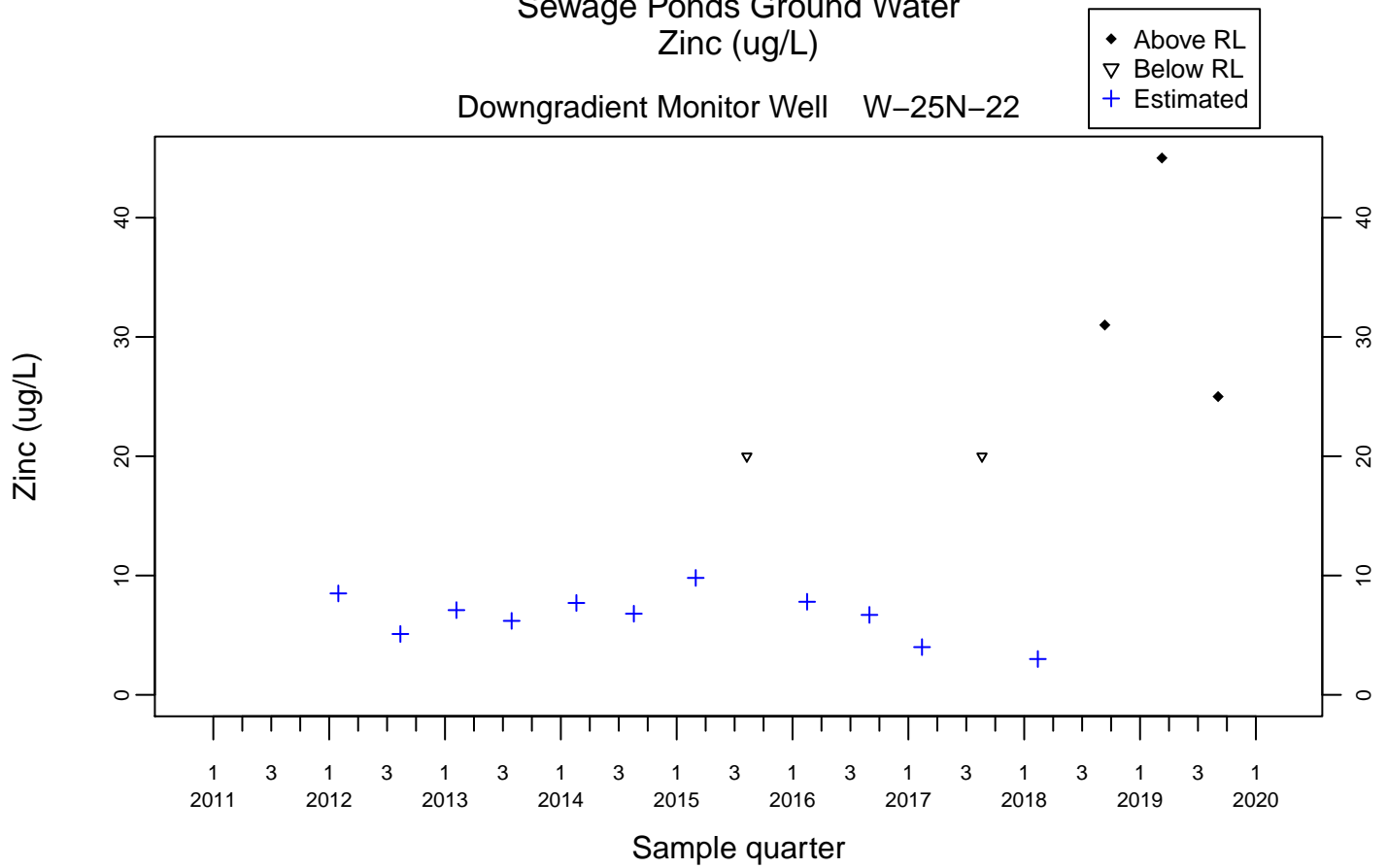


Downgradient Monitor Well W-25N-23

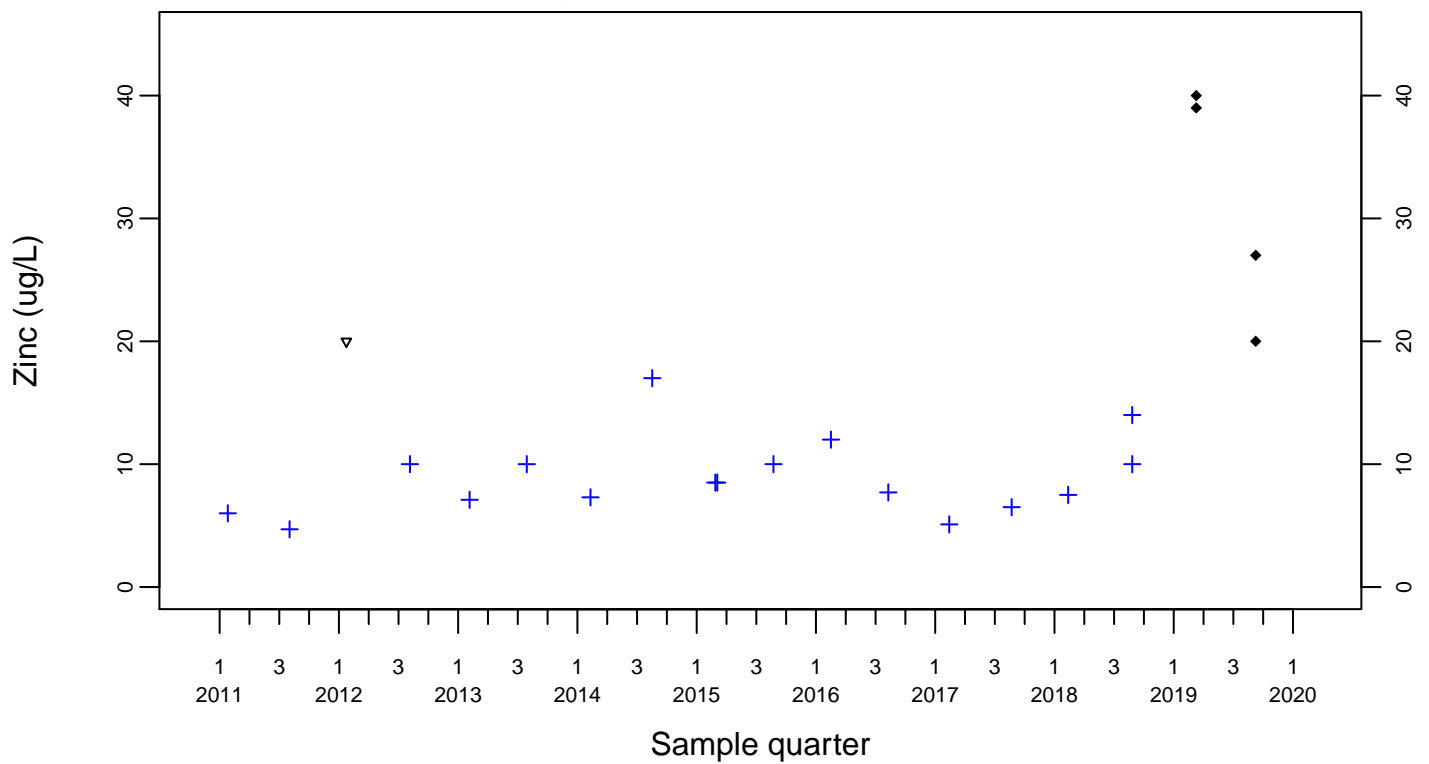


Sewage Ponds Ground Water
Zinc (ug/L)

Downgradient Monitor Well W-25N-22



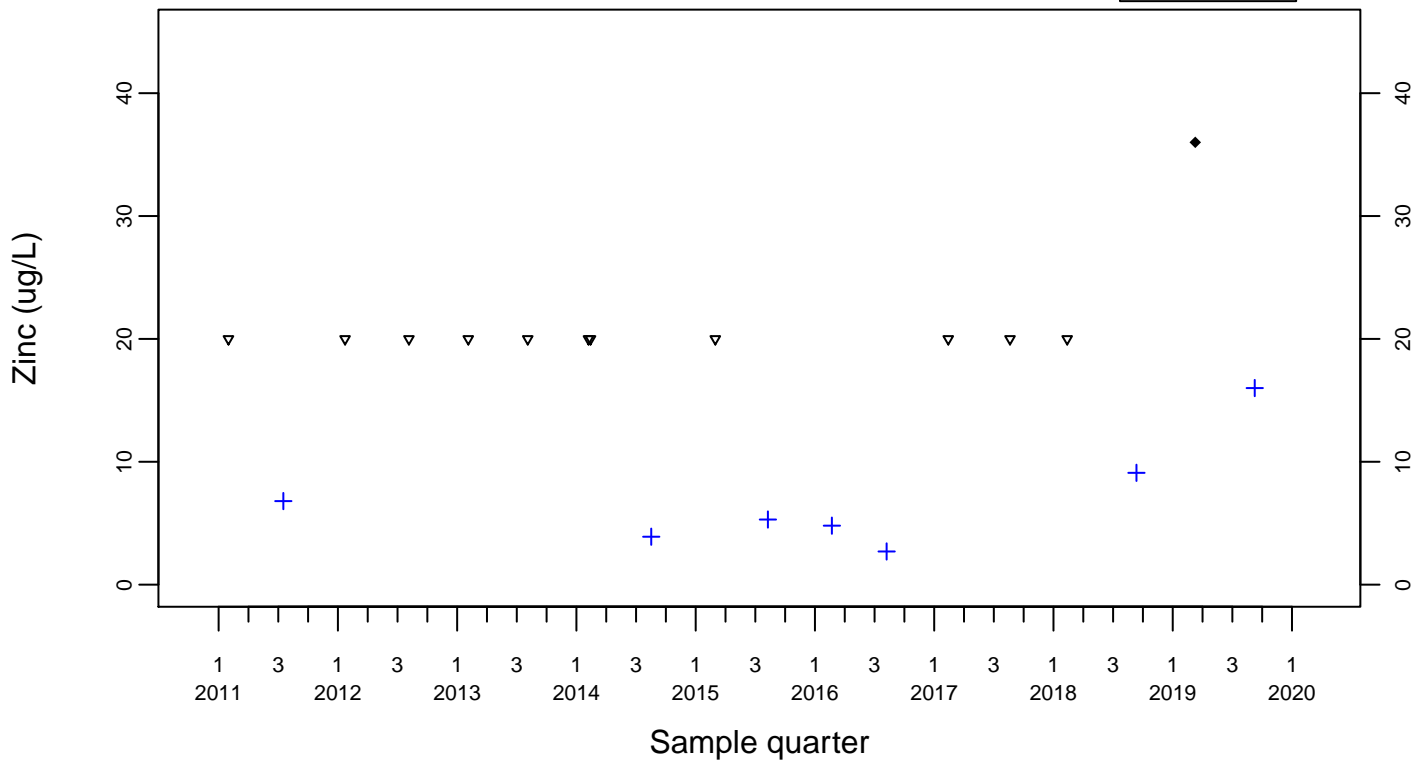
Downgradient Monitor Well W-26R-01



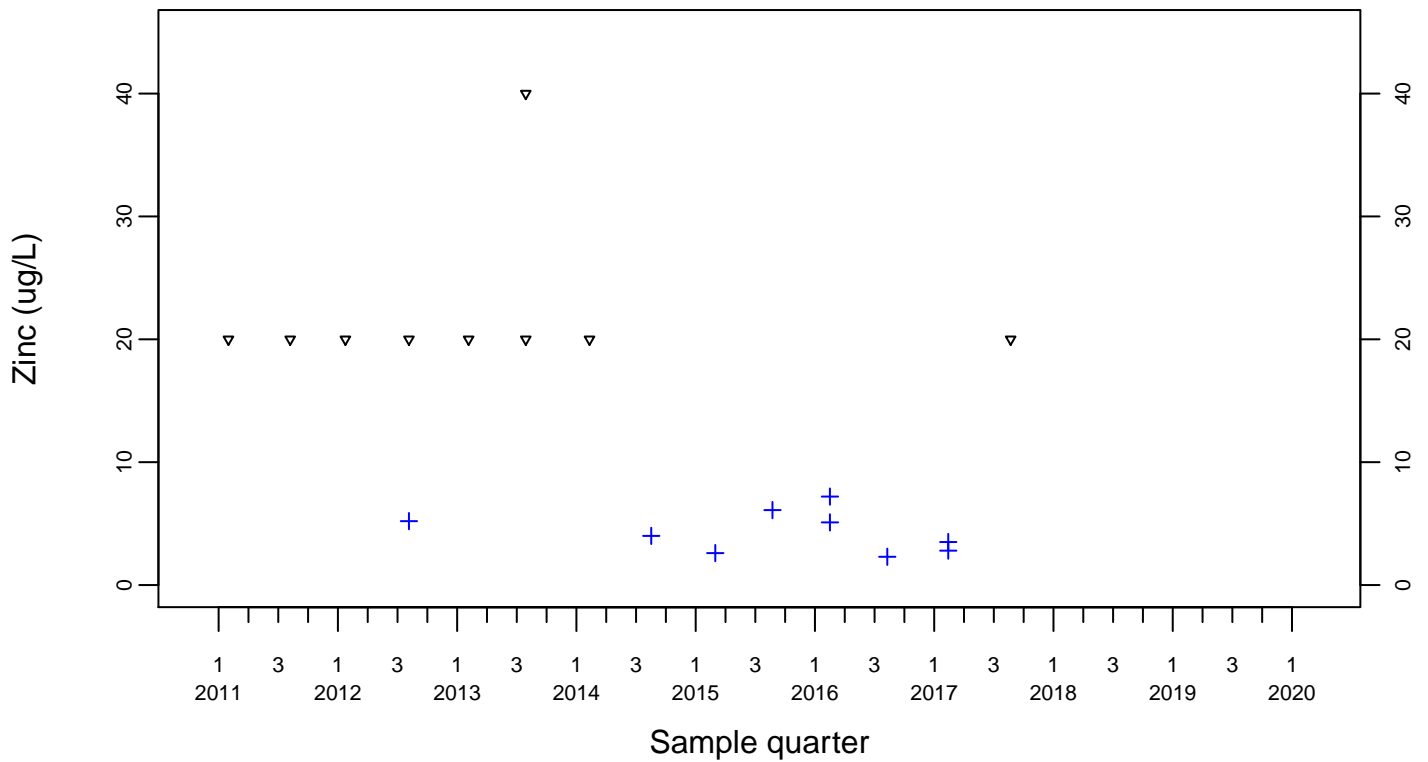
Sewage Ponds Ground Water
Zinc (ug/L)

Downgradient Monitor Well W-26R-05

- ◆ Above RL
- ▽ Below RL
- + Estimated

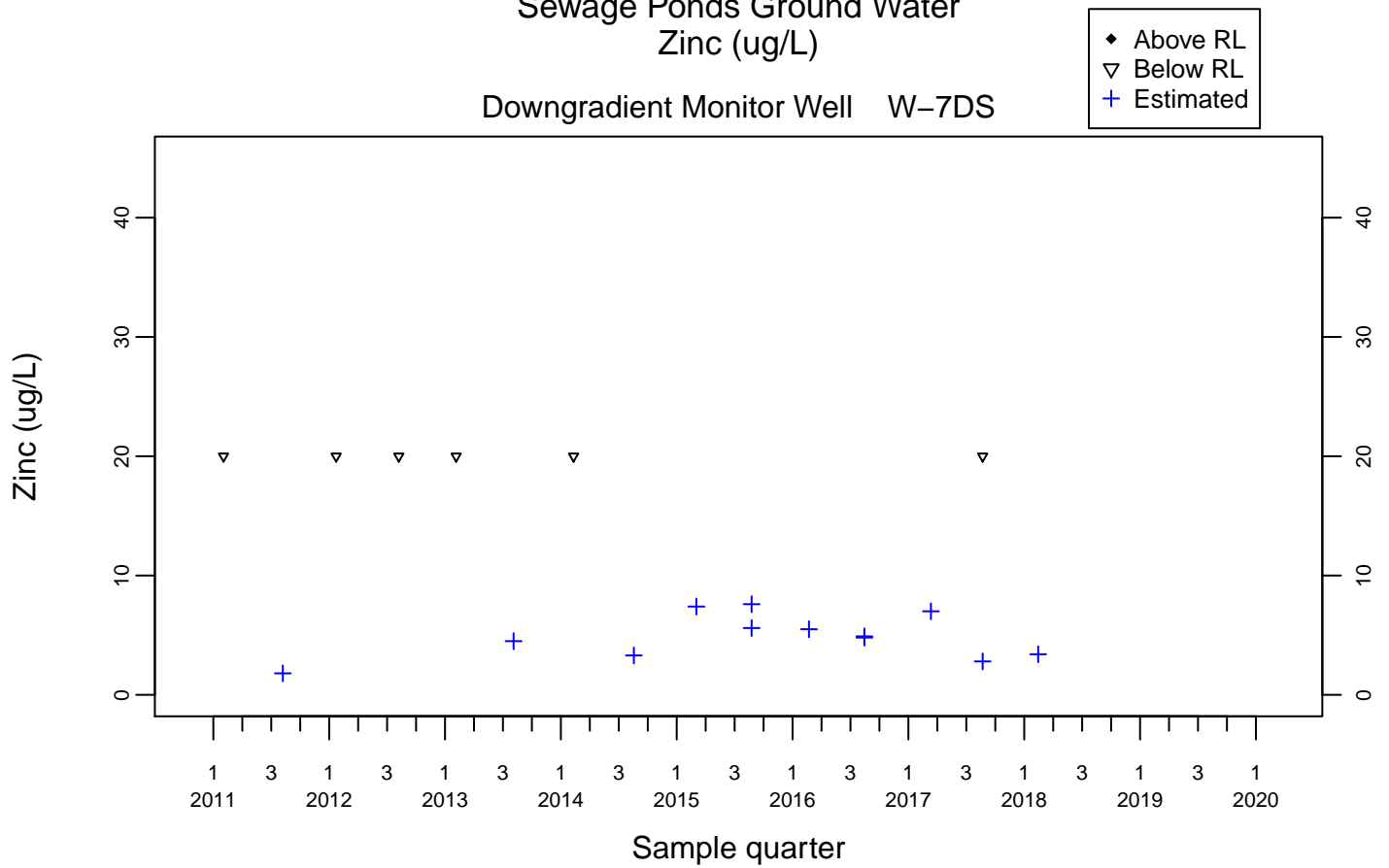


Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Zinc (ug/L)

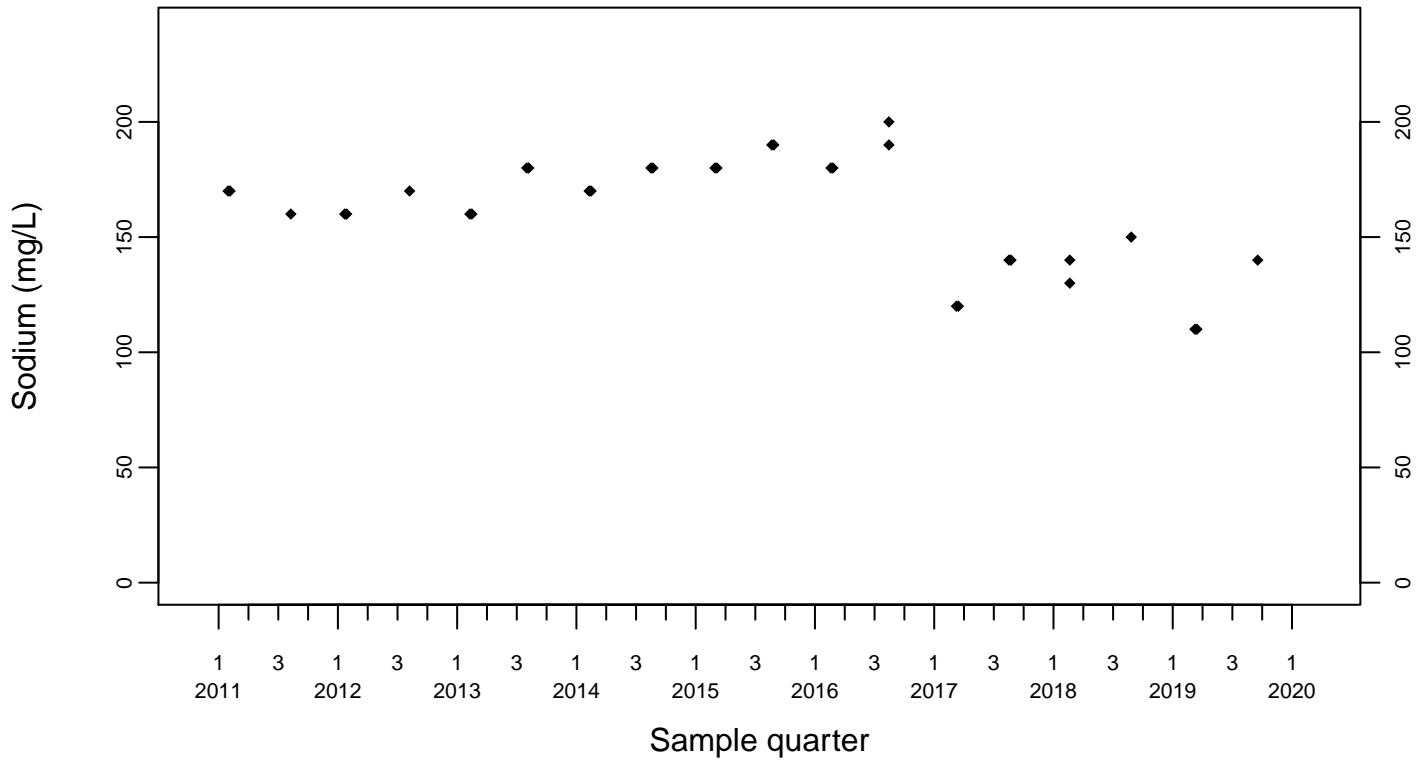
Downgradient Monitor Well W-7DS



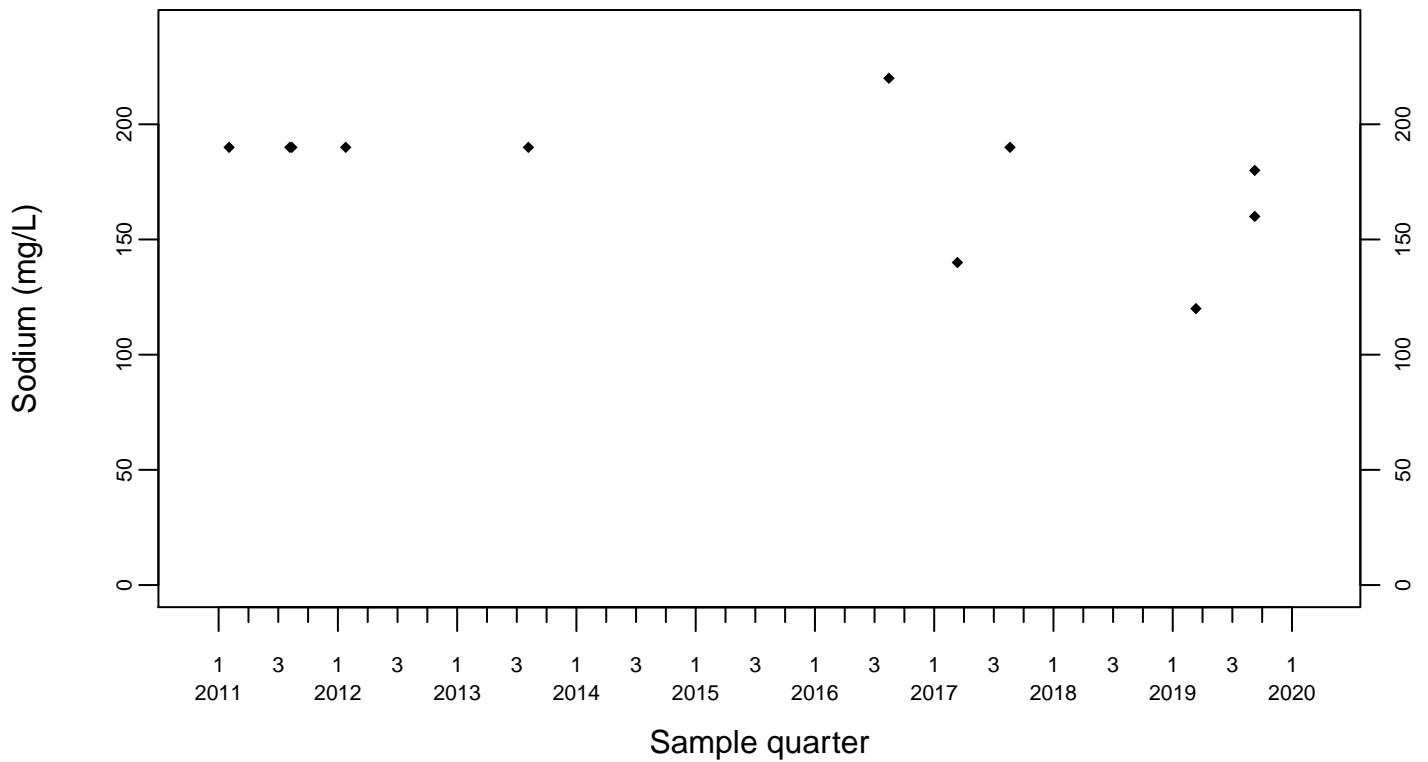
Sewage Ponds Ground Water
Sodium (mg/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



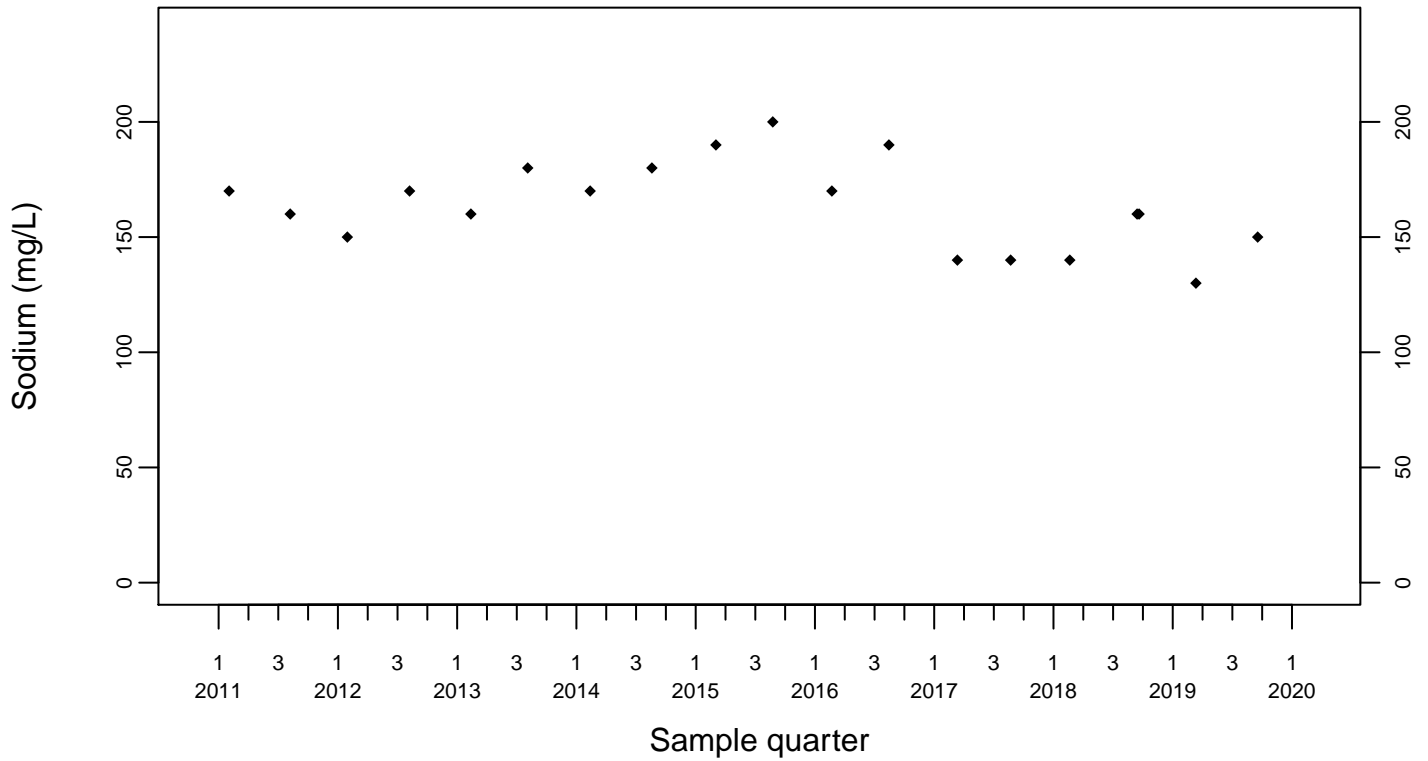
Upgradient Monitor Well W-7PS



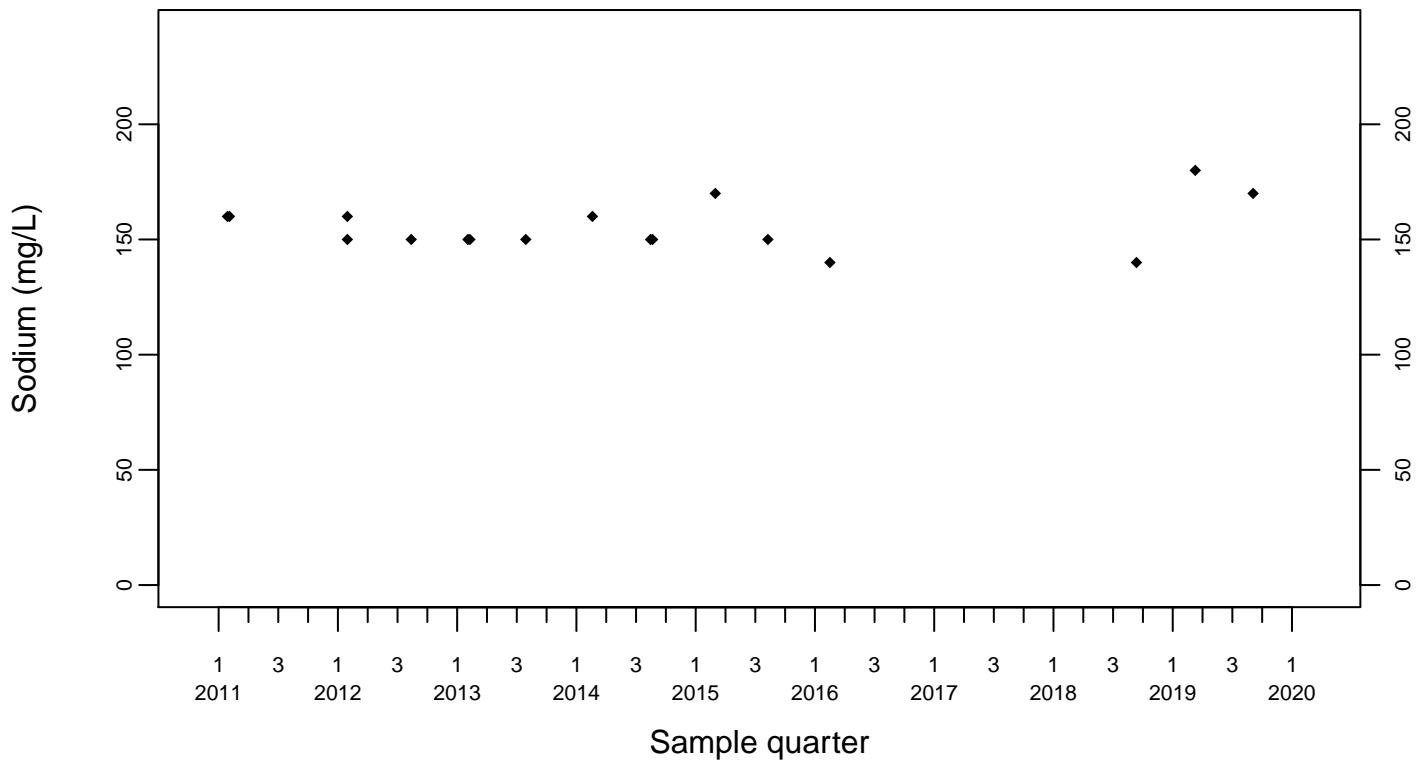
Sewage Ponds Ground Water
Sodium (mg/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



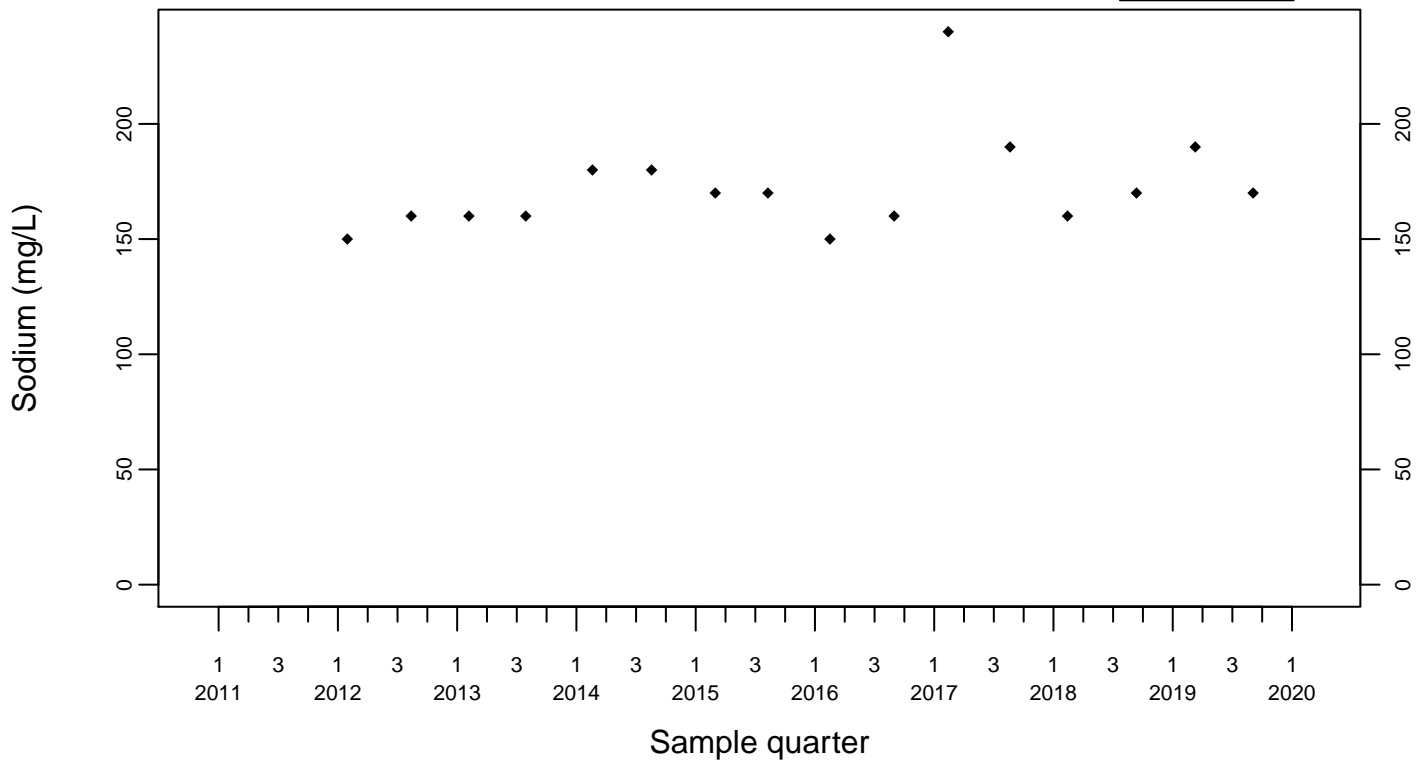
Downgradient Monitor Well W-25N-23



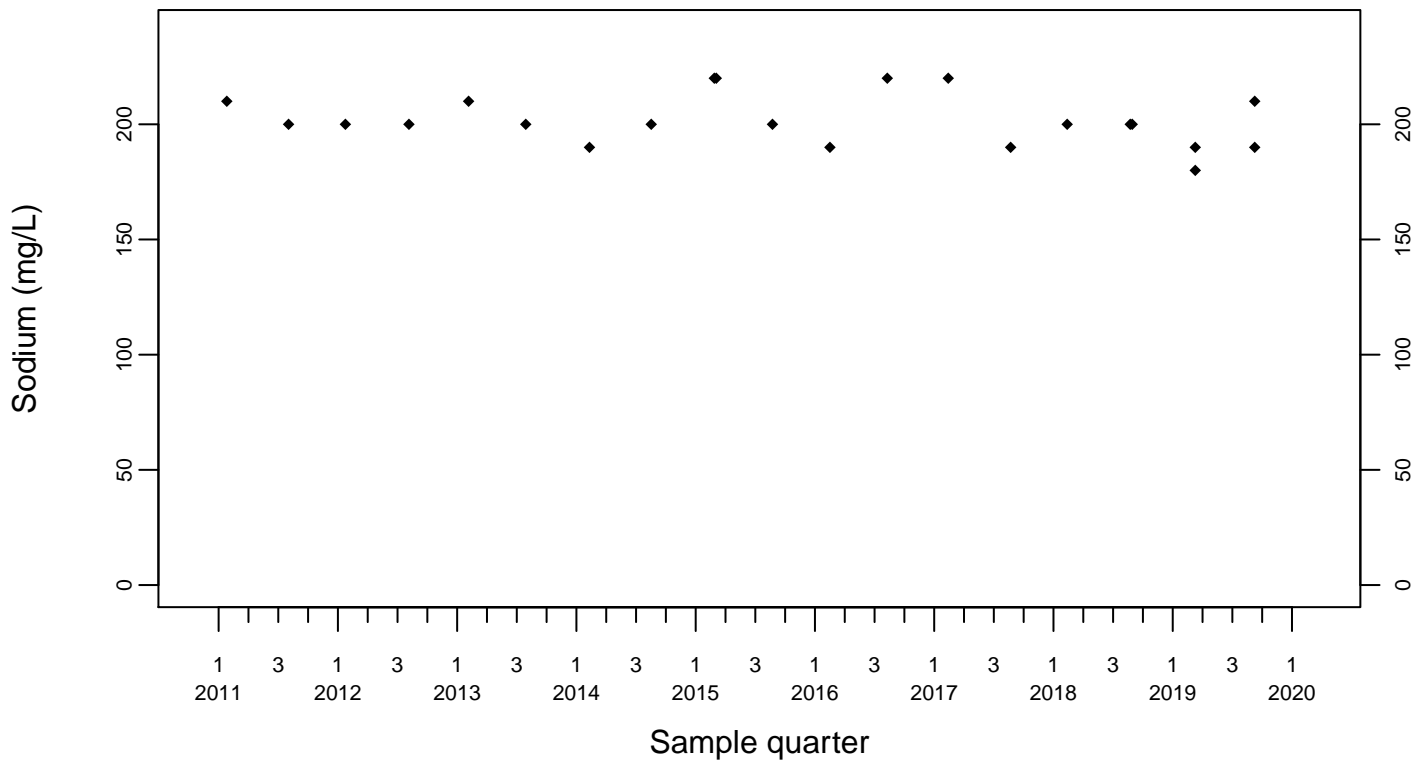
Sewage Ponds Ground Water
Sodium (mg/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



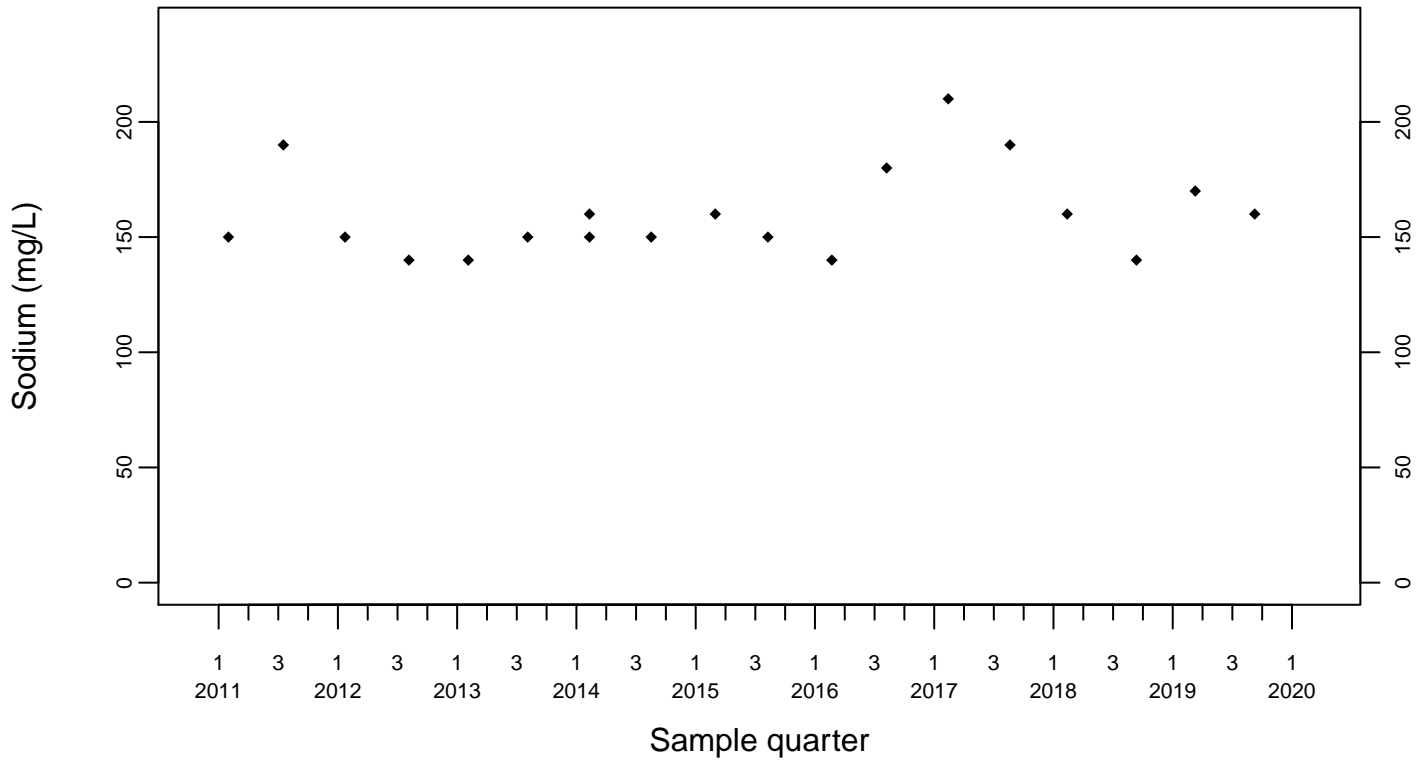
Downgradient Monitor Well W-26R-01



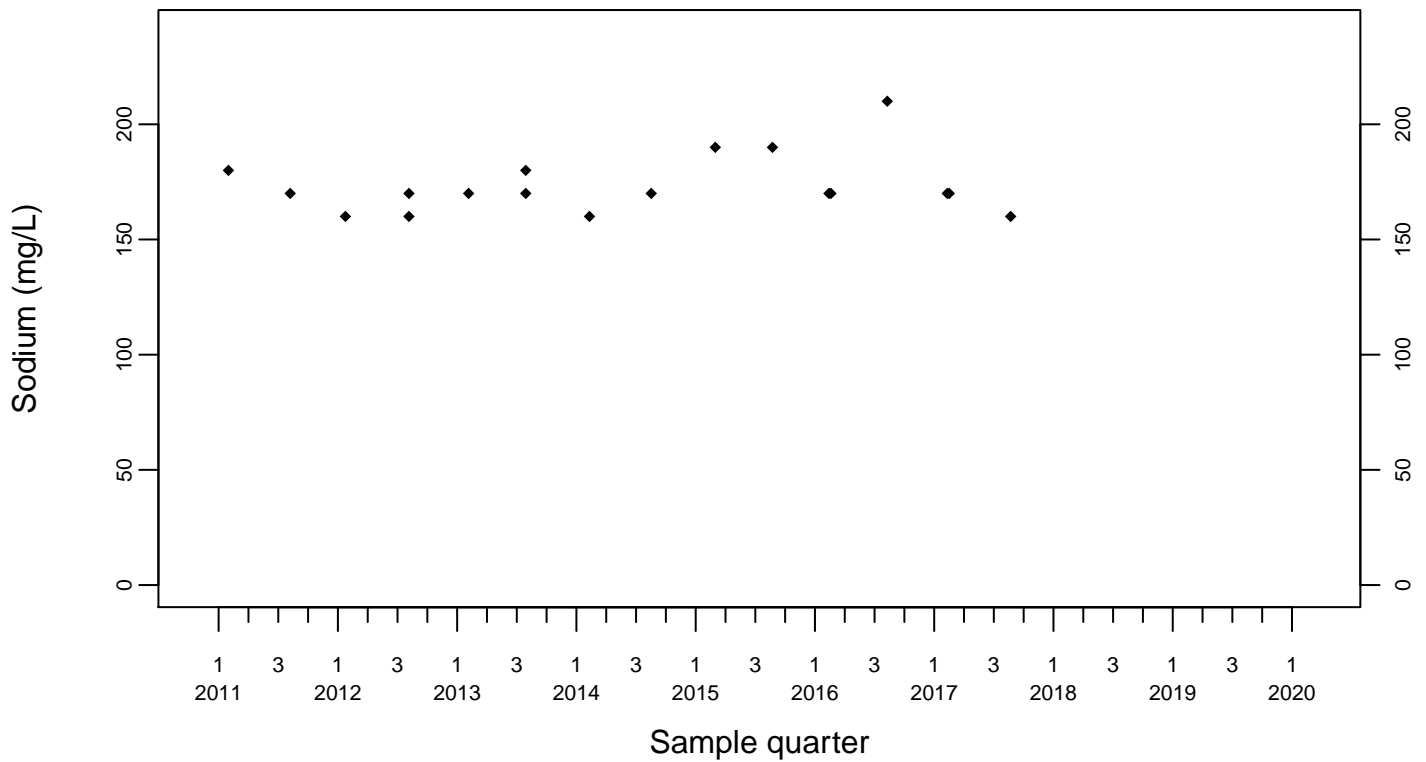
Sewage Ponds Ground Water
Sodium (mg/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



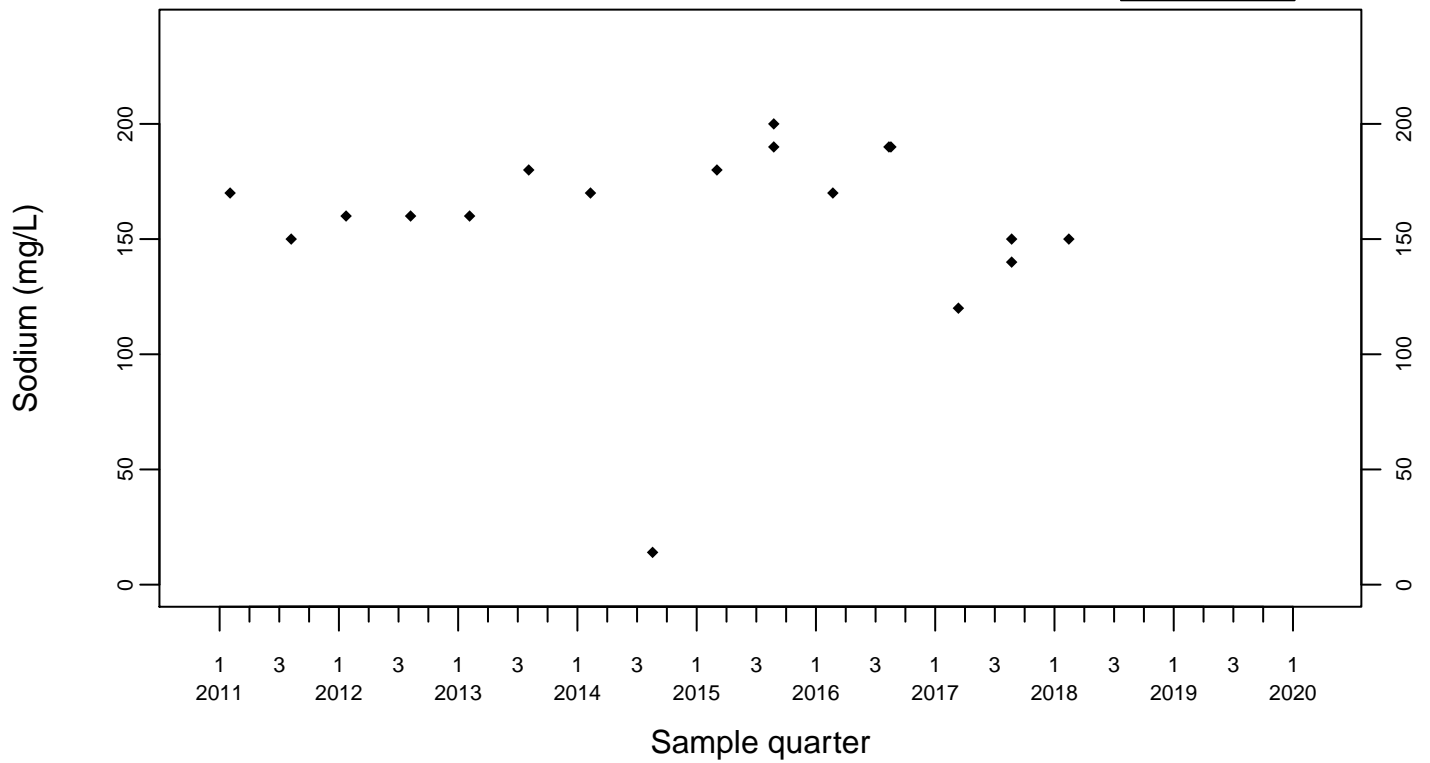
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water Sodium (mg/L)

Downgradient Monitor Well W-7DS

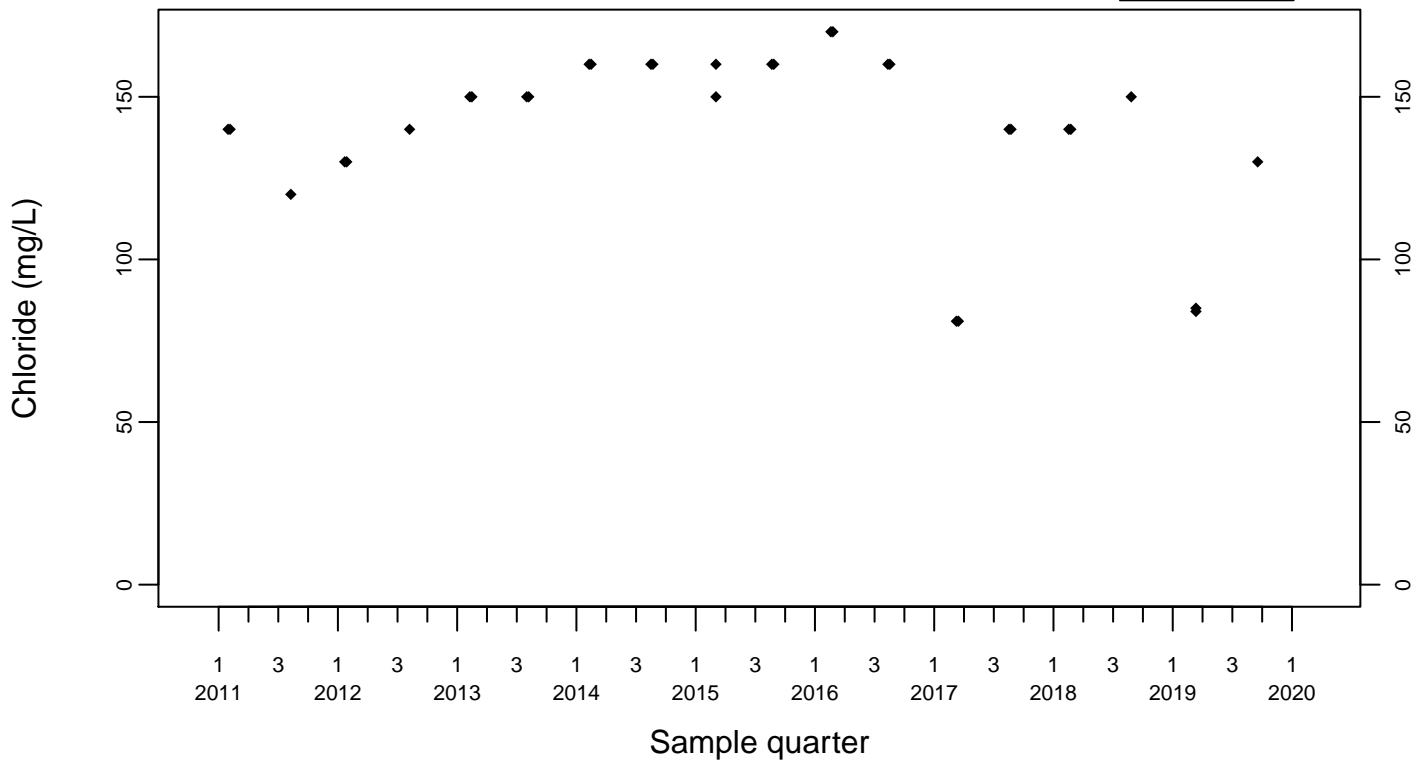
◆ Above RL
▽ Below RL



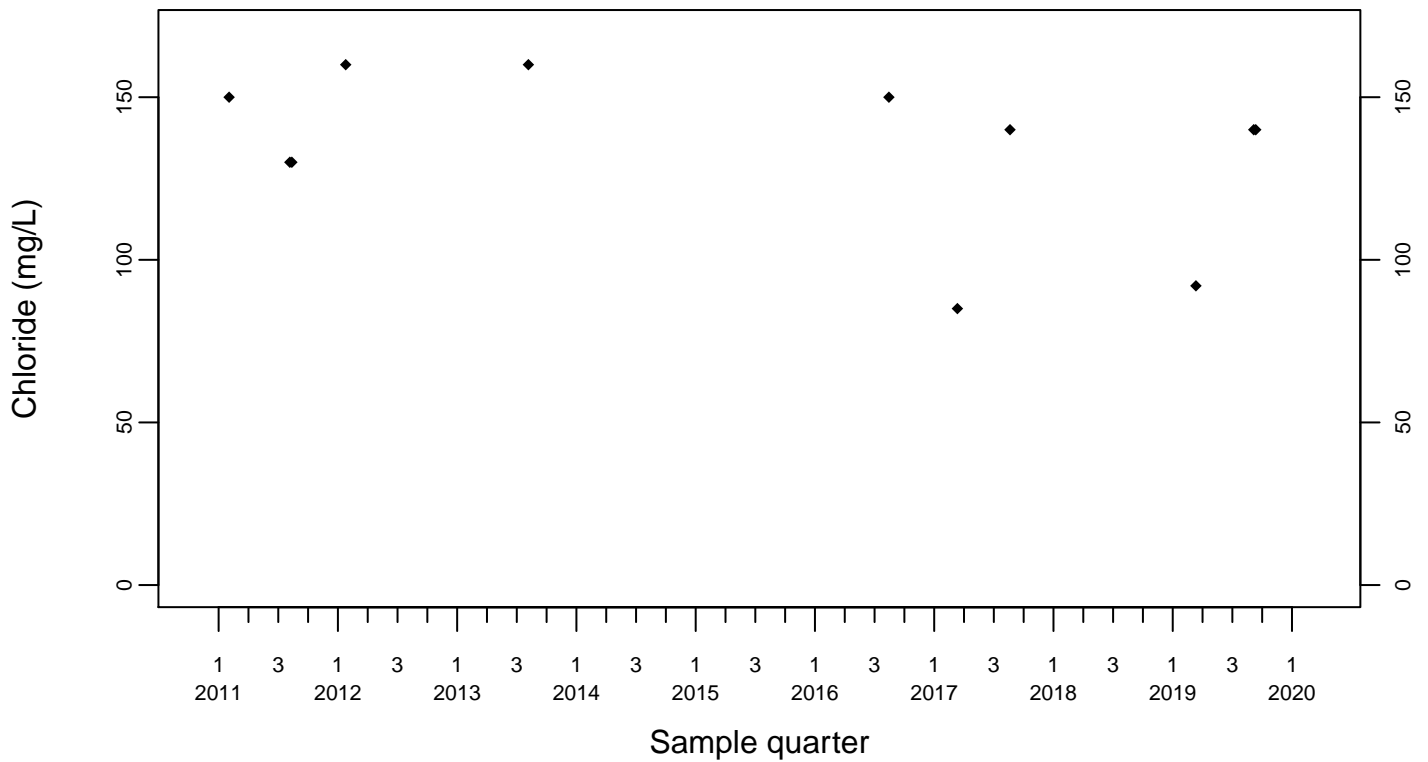
Sewage Ponds Ground Water
Chloride (mg/L)

Upgradient Monitor Well W-7ES

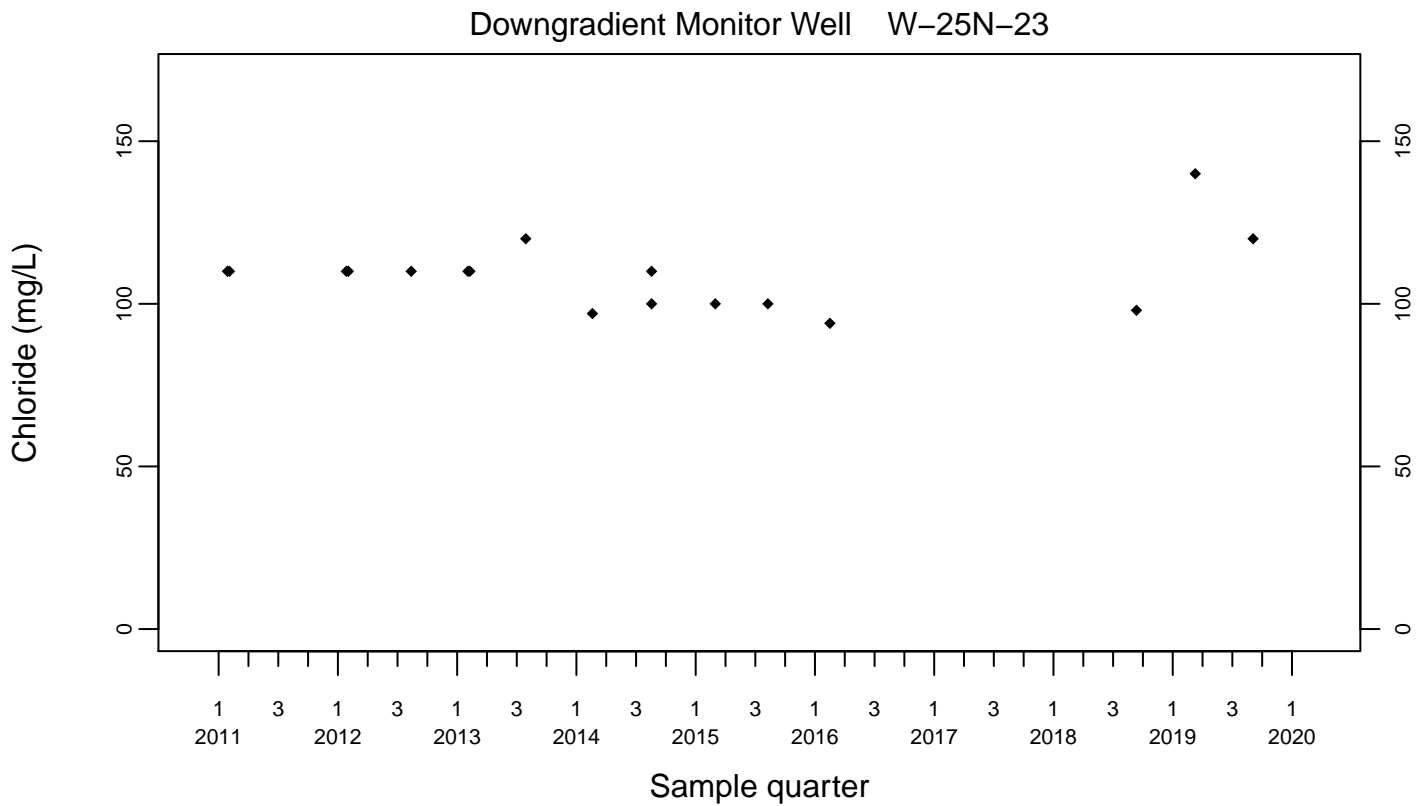
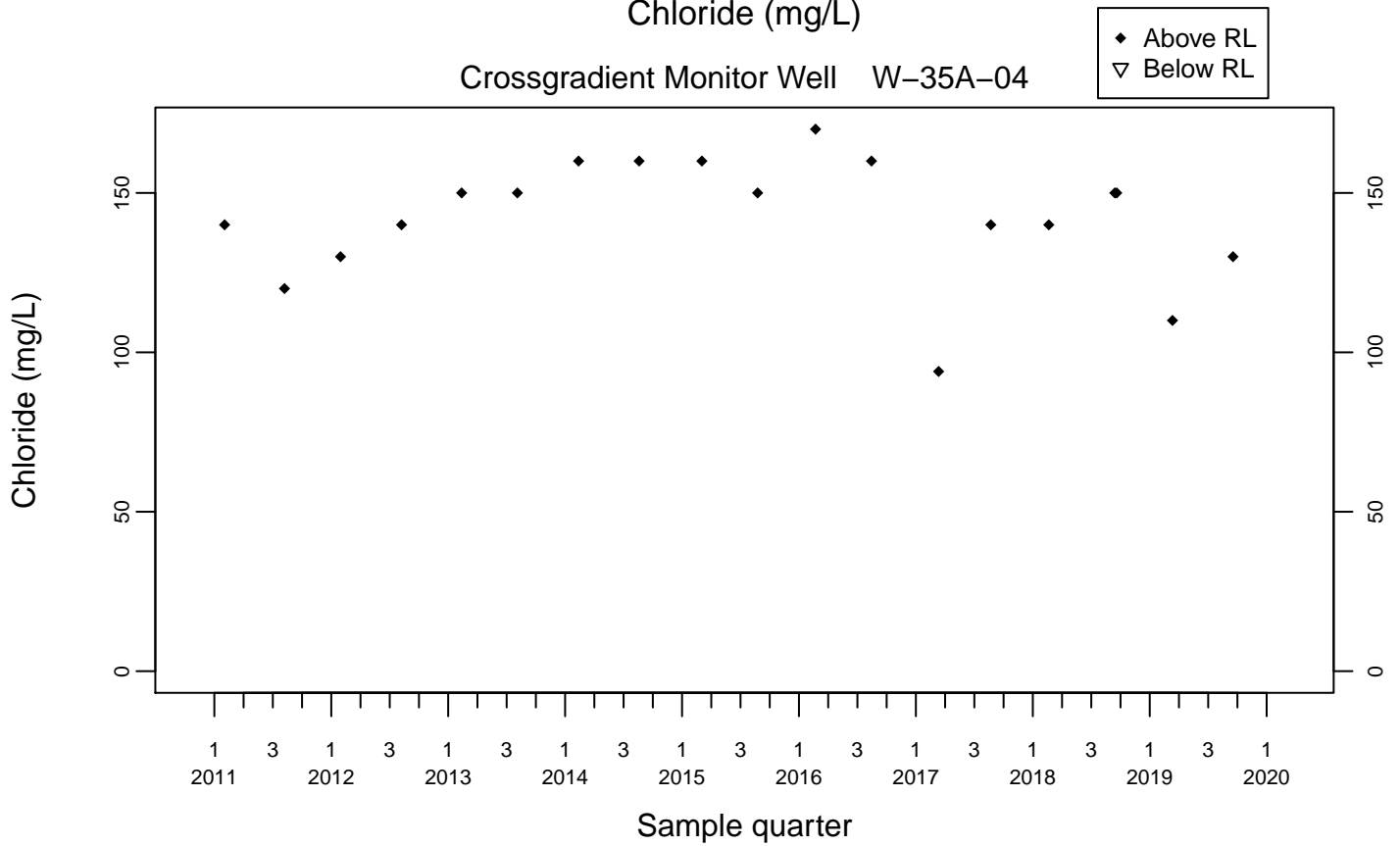
◆ Above RL
▽ Below RL



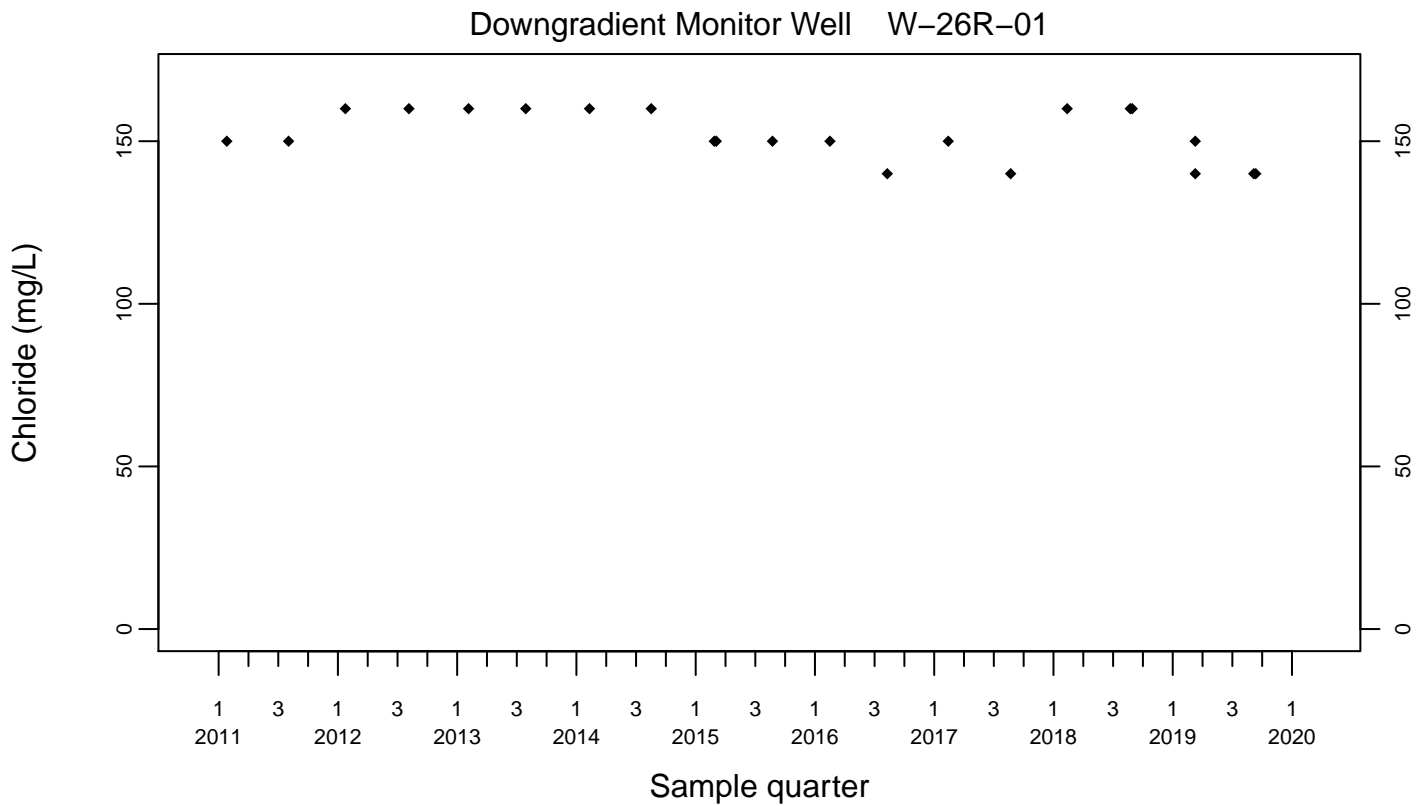
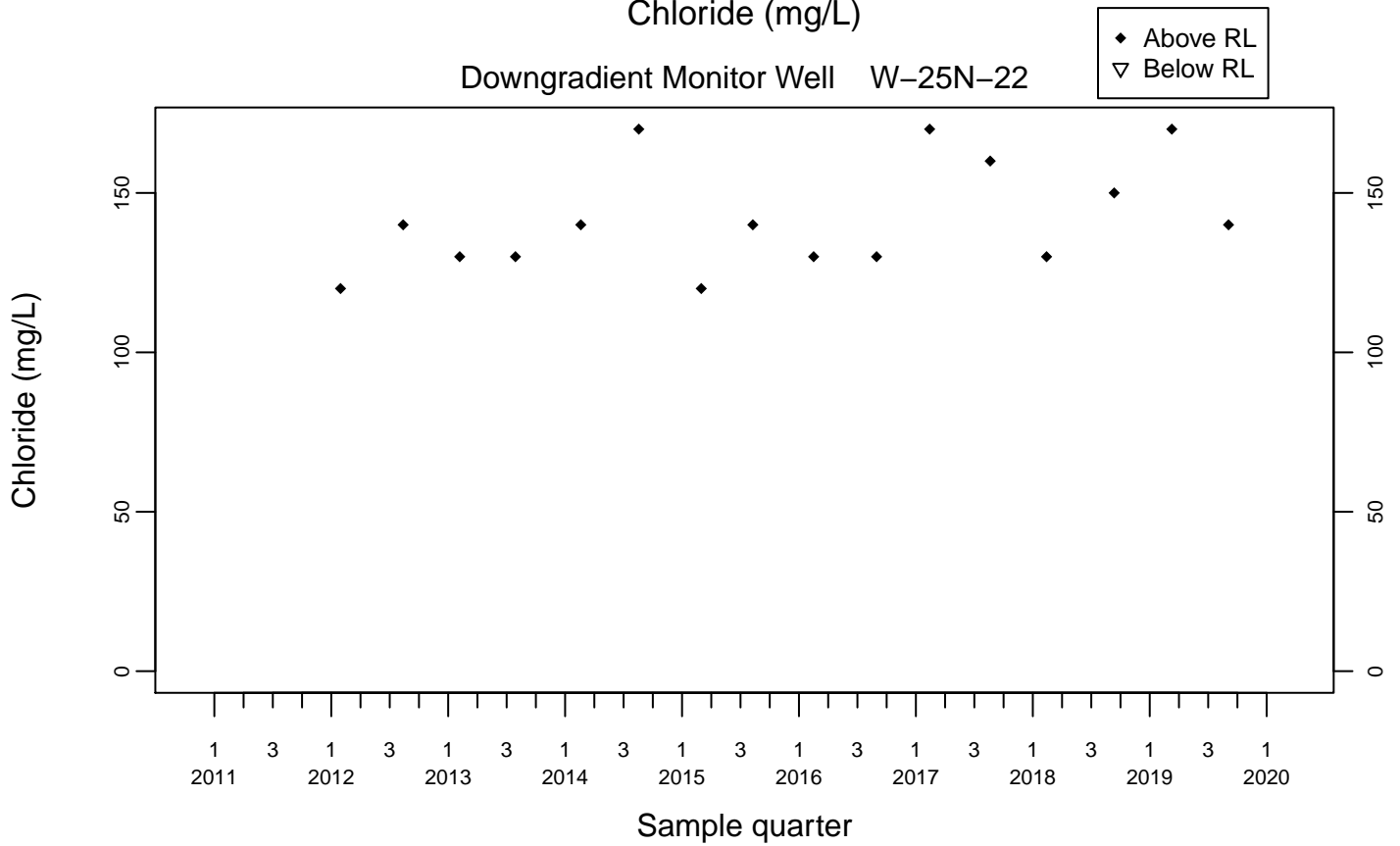
Upgradient Monitor Well W-7PS



Sewage Ponds Ground Water
Chloride (mg/L)



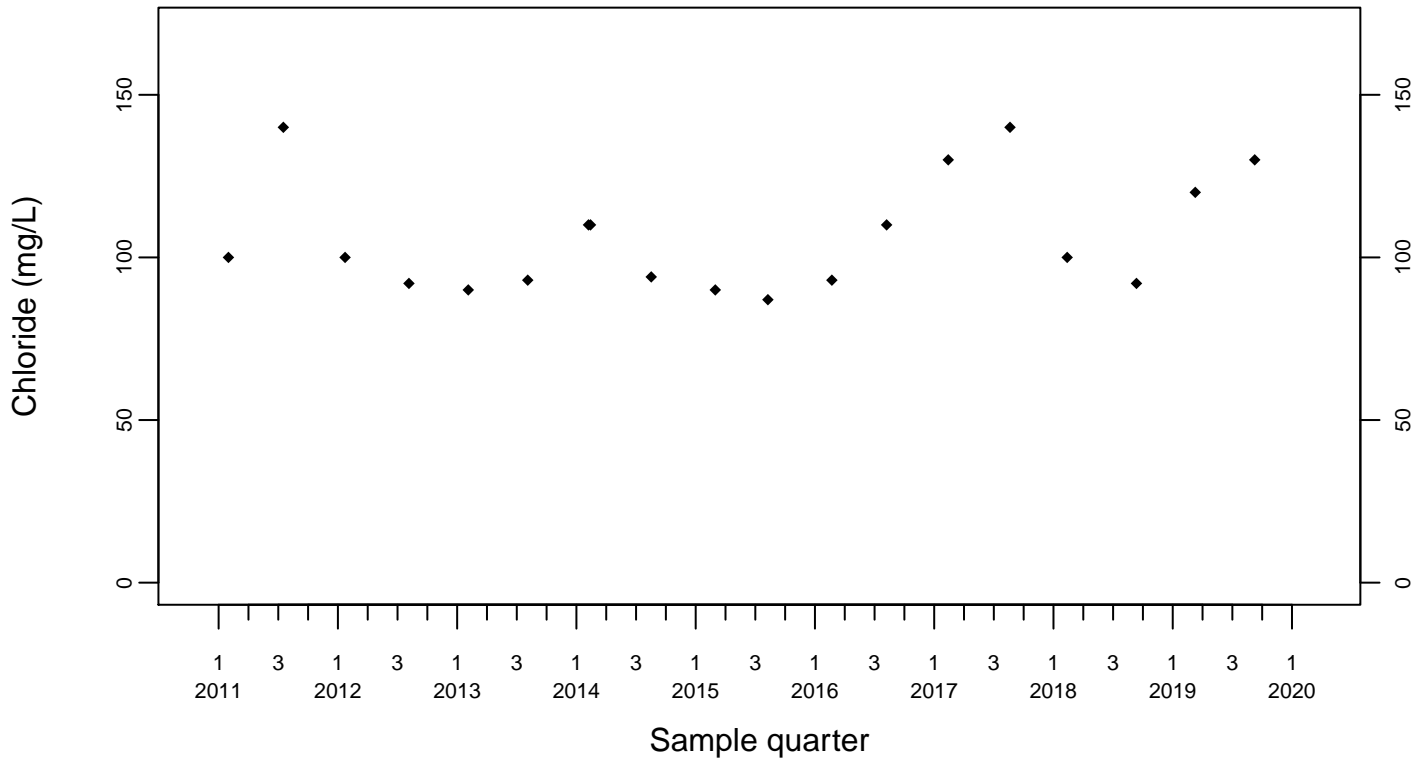
Sewage Ponds Ground Water
Chloride (mg/L)



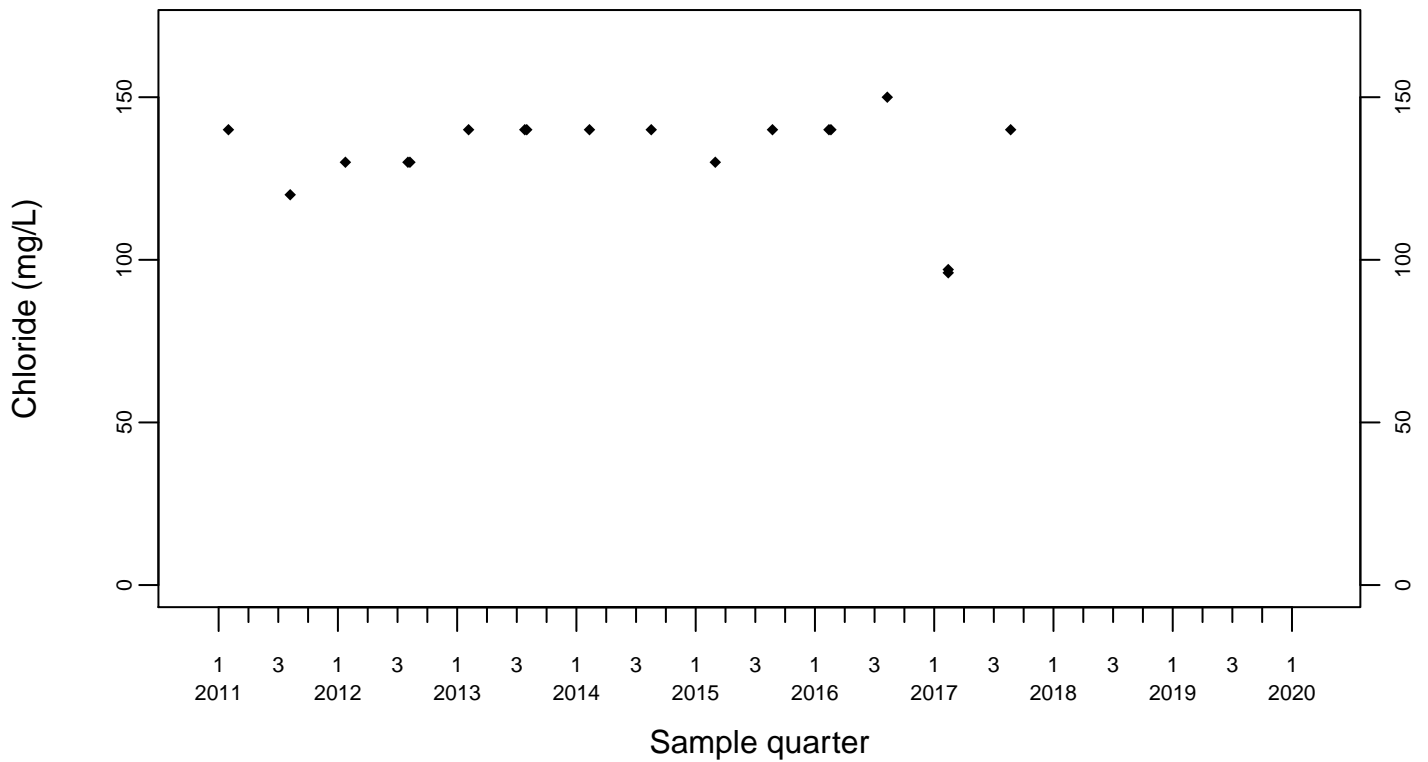
Sewage Ponds Ground Water
Chloride (mg/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



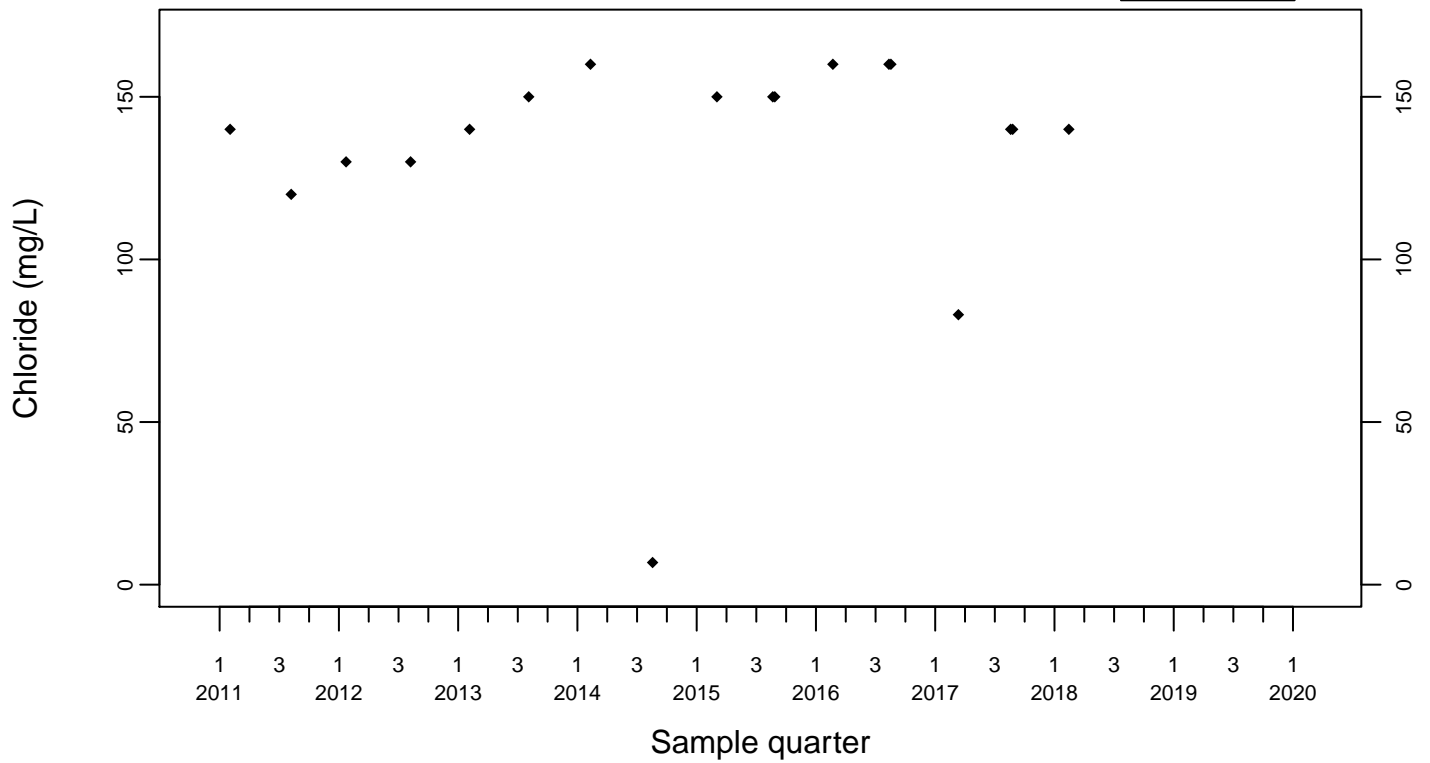
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Chloride (mg/L)

Downgradient Monitor Well W-7DS

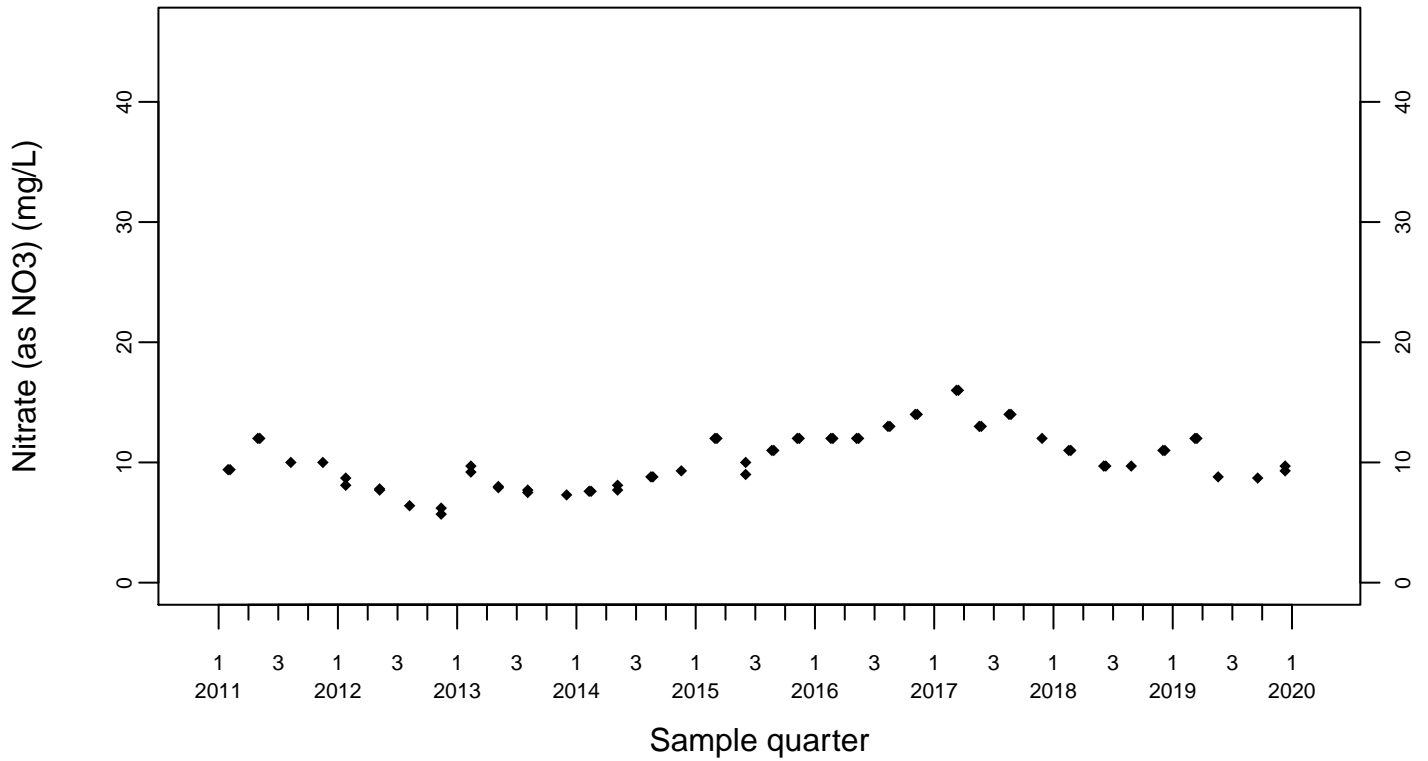
◆ Above RL
▽ Below RL



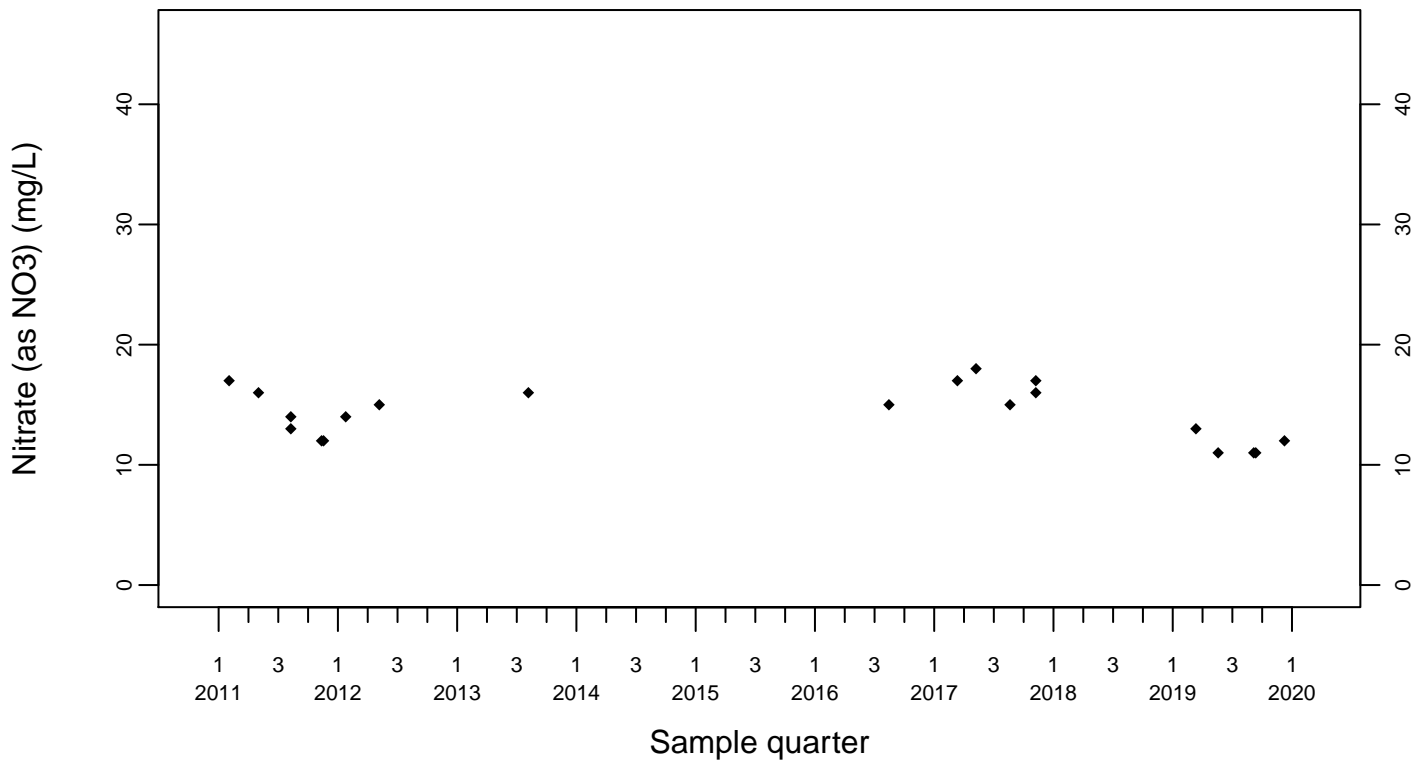
Sewage Ponds Ground Water
Nitrate (as NO₃) (mg/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



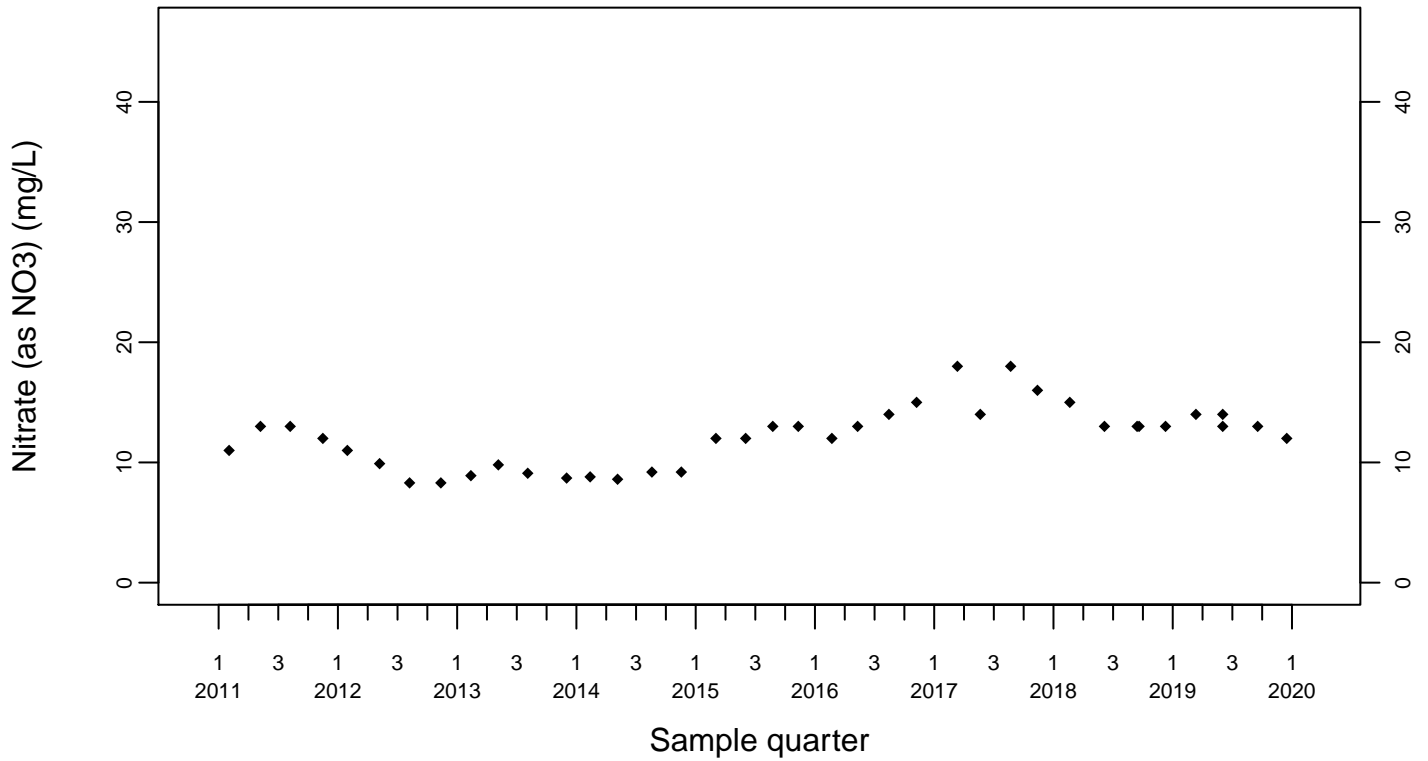
Upgradient Monitor Well W-7PS



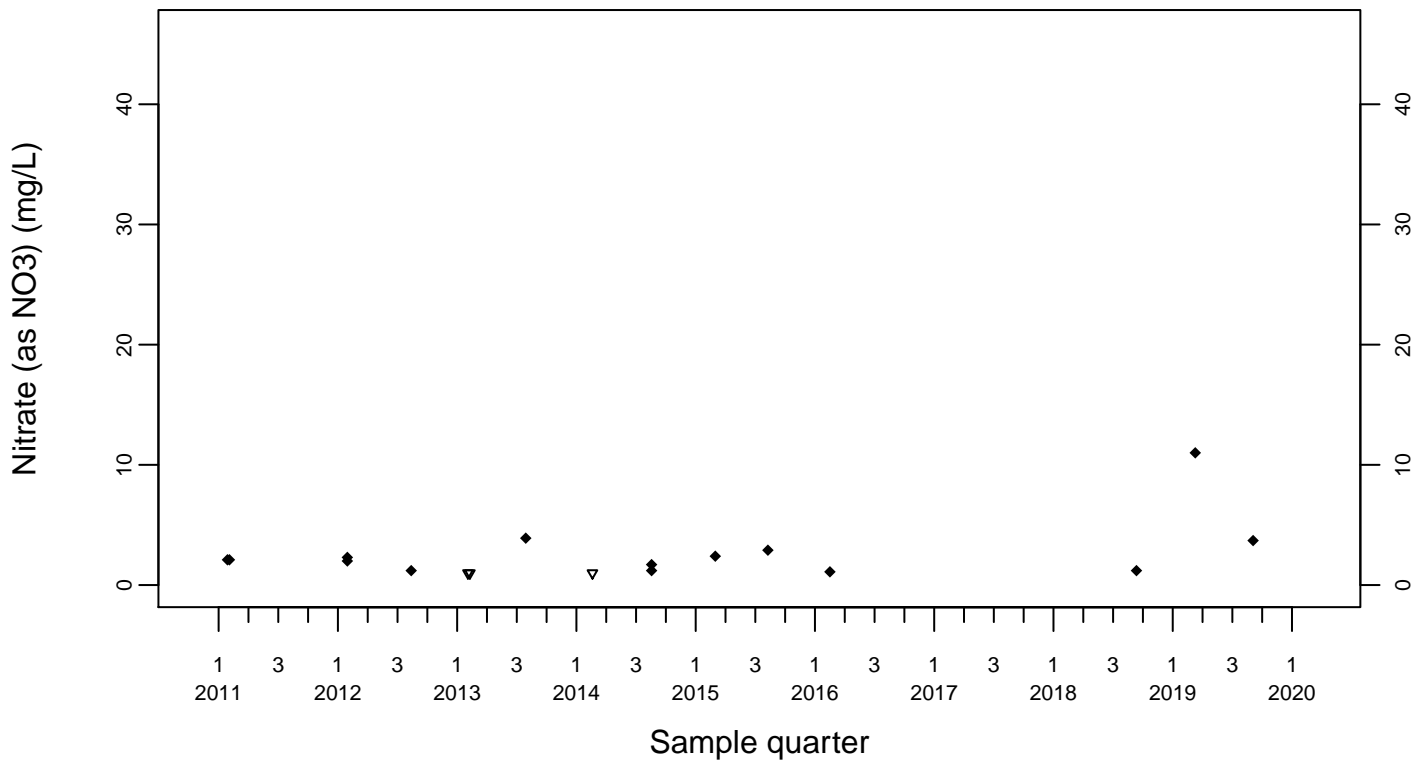
Sewage Ponds Ground Water
Nitrate (as NO₃) (mg/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



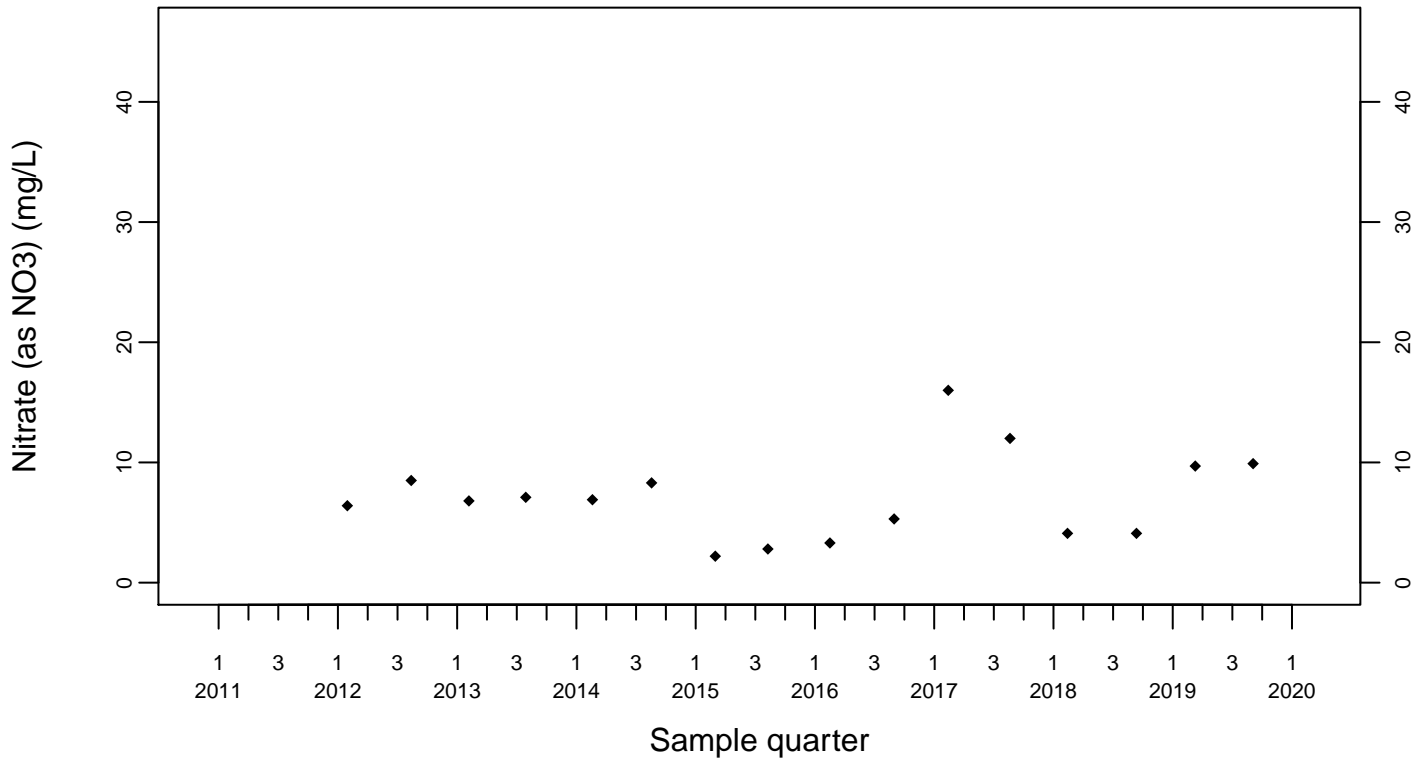
Downgradient Monitor Well W-25N-23



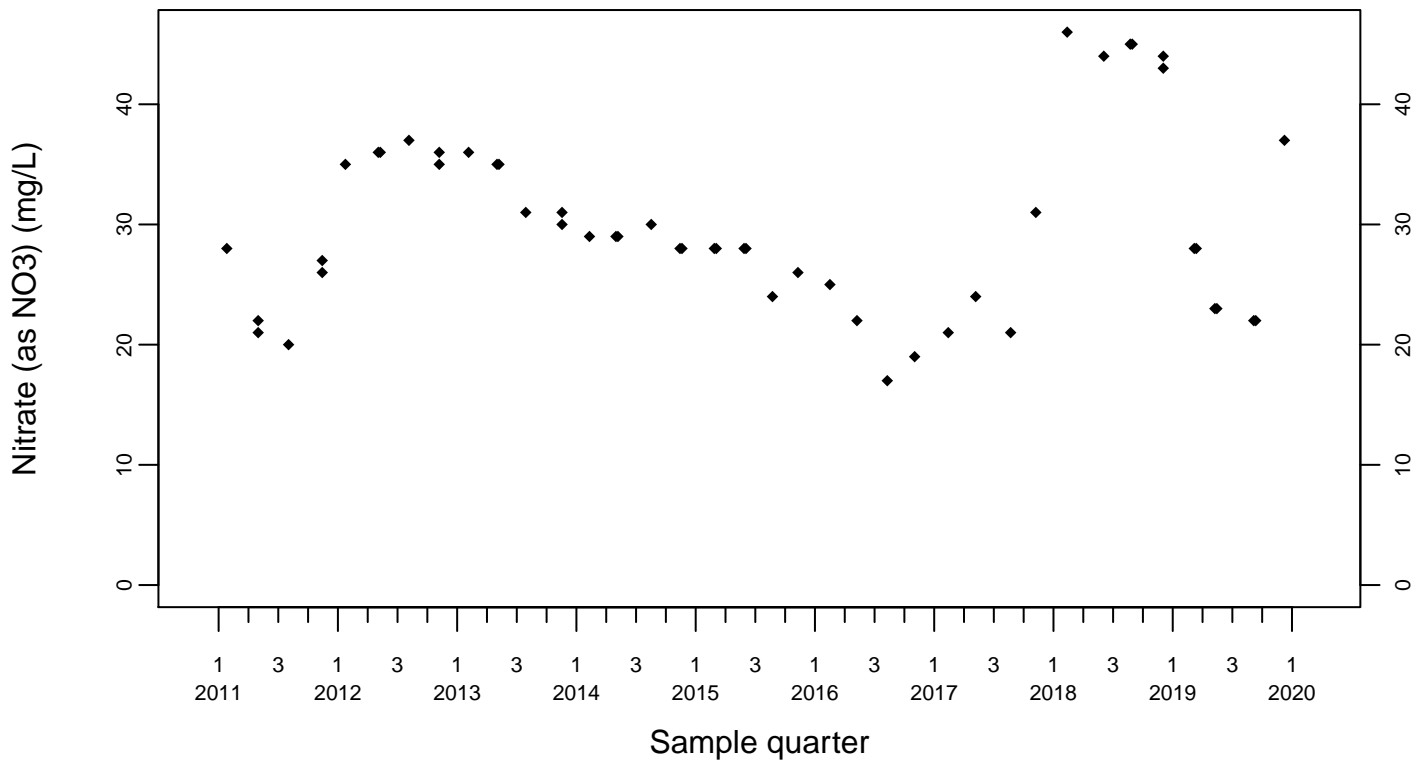
Sewage Ponds Ground Water
Nitrate (as NO₃) (mg/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



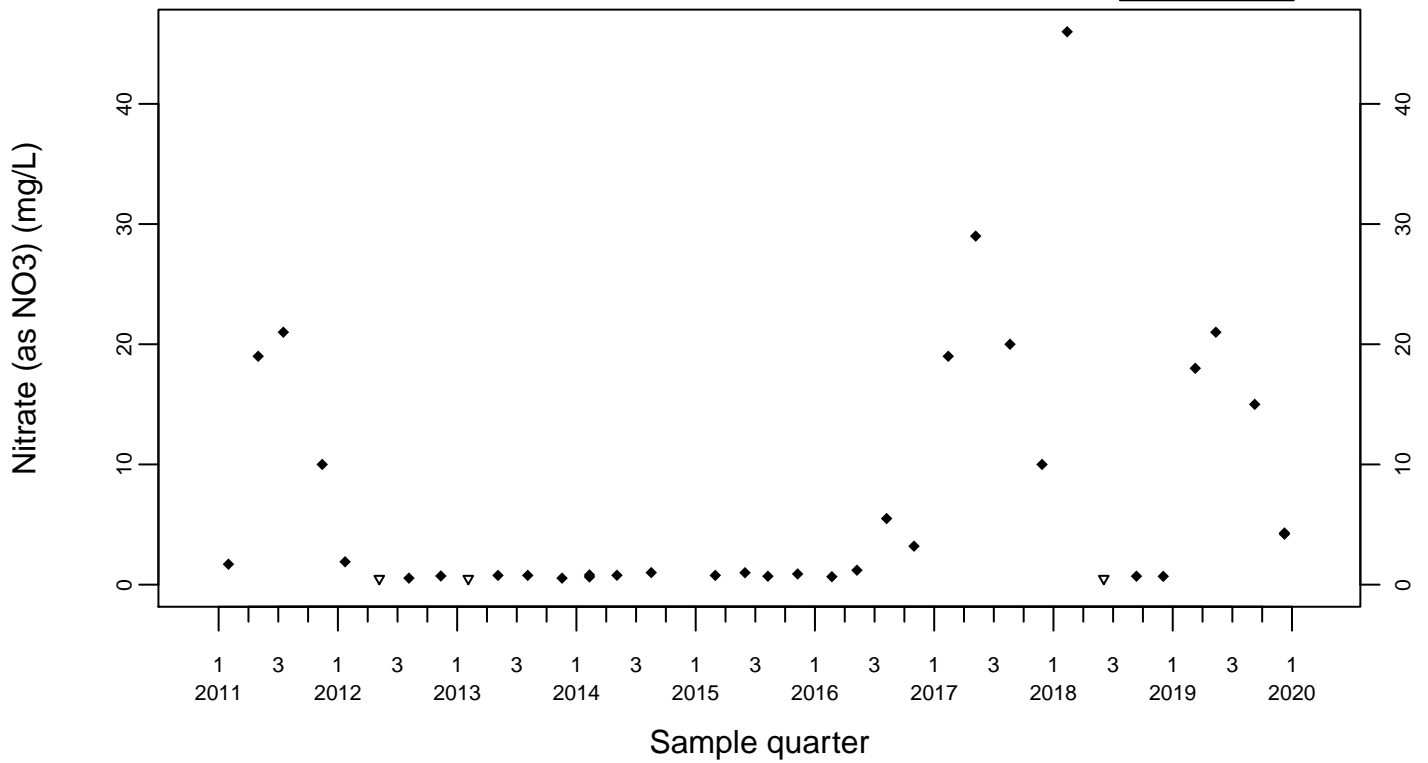
Downgradient Monitor Well W-26R-01



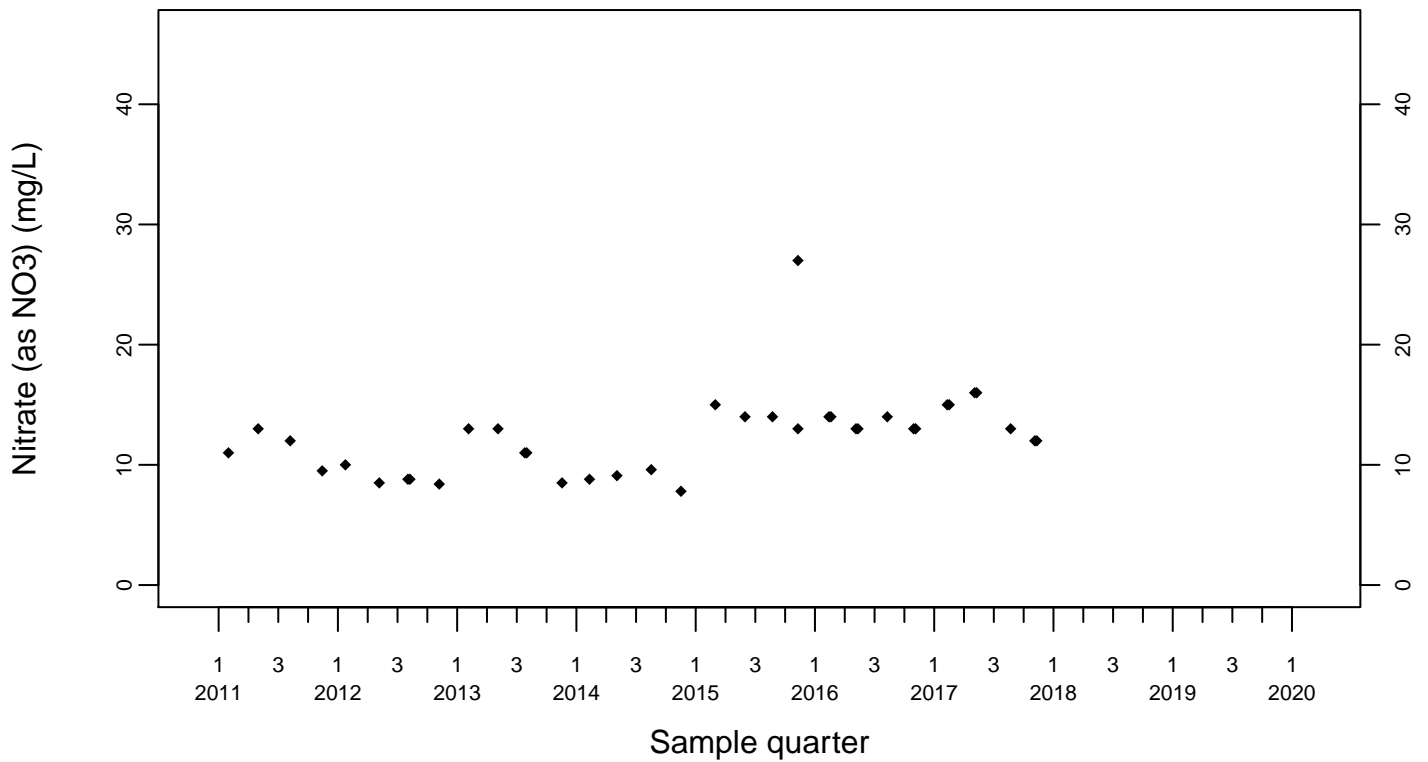
Sewage Ponds Ground Water
Nitrate (as NO₃) (mg/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



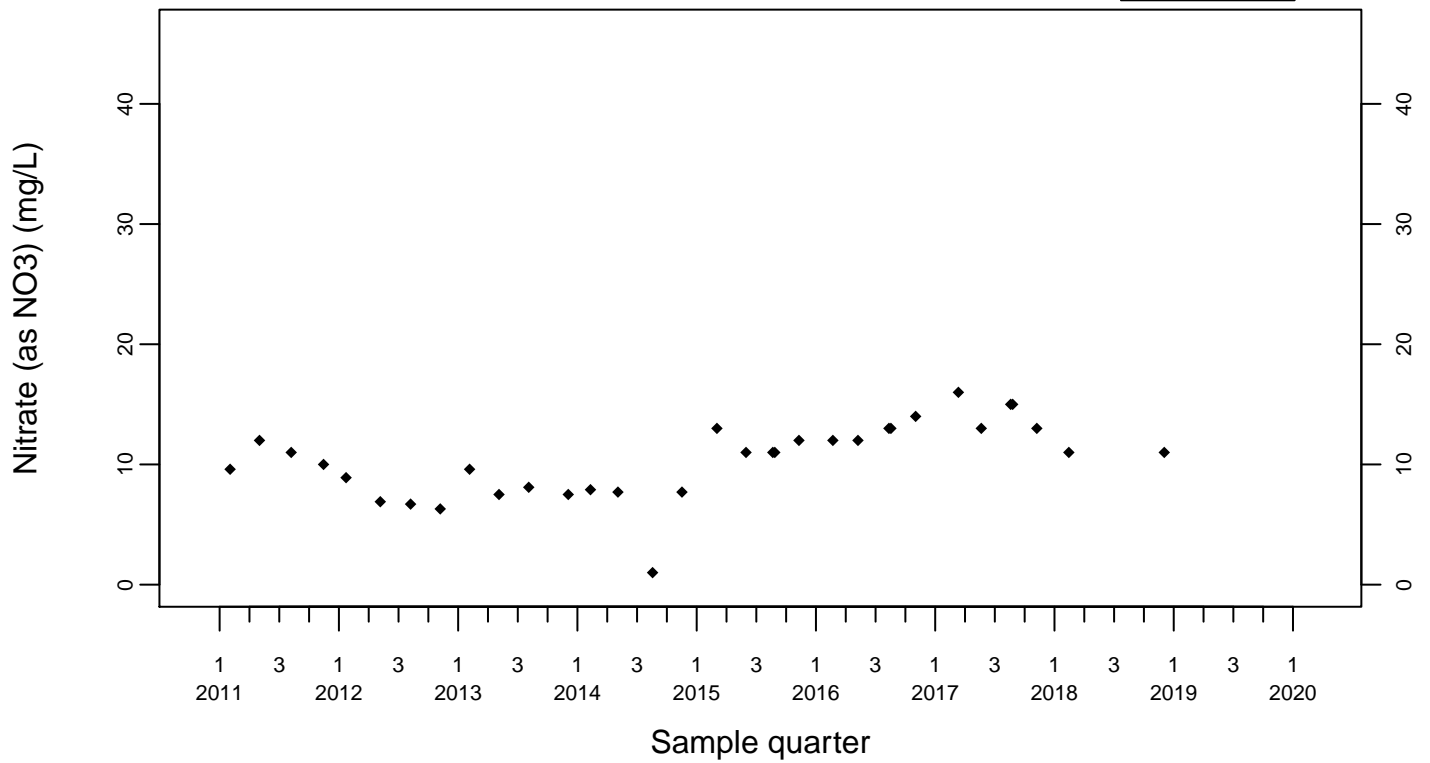
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Nitrate (as NO₃) (mg/L)

Downgradient Monitor Well W-7DS

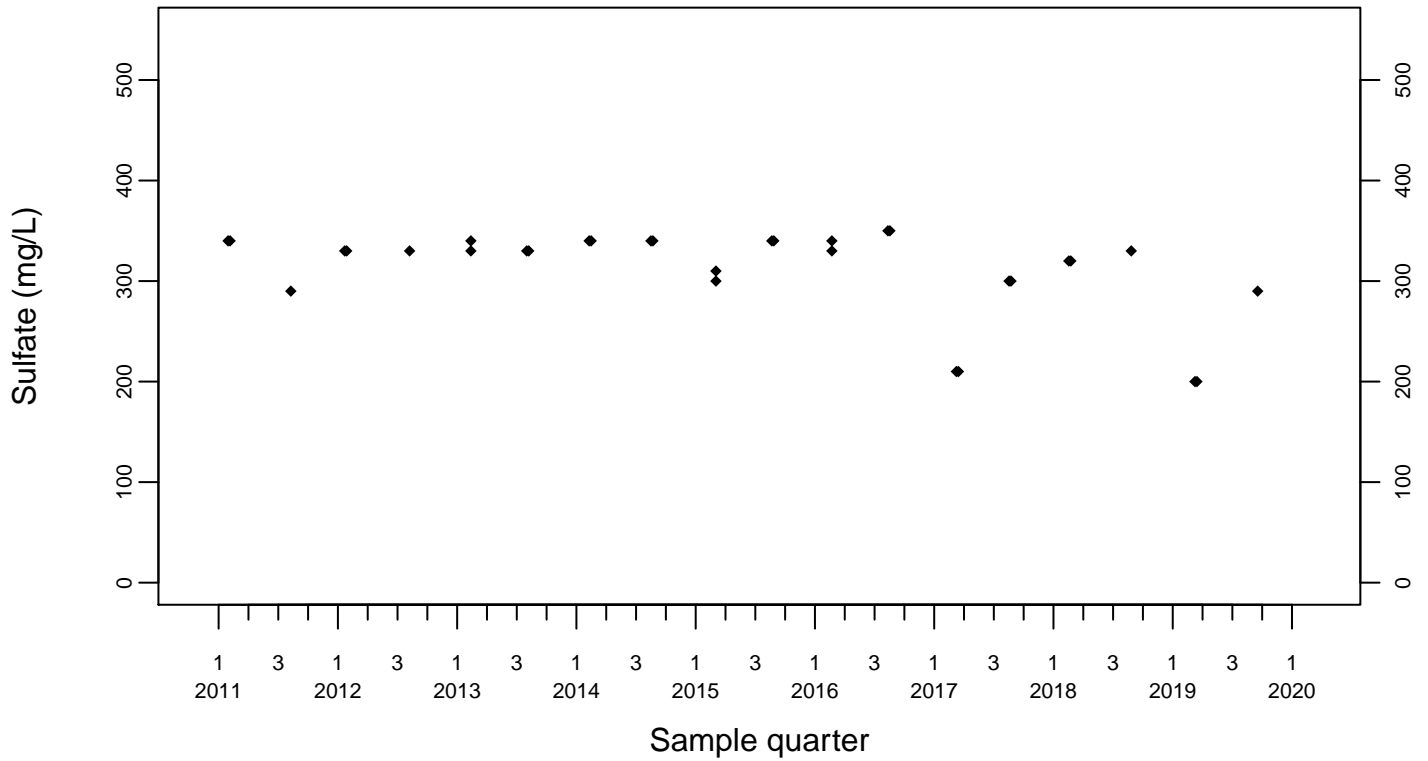
◆ Above RL
▽ Below RL



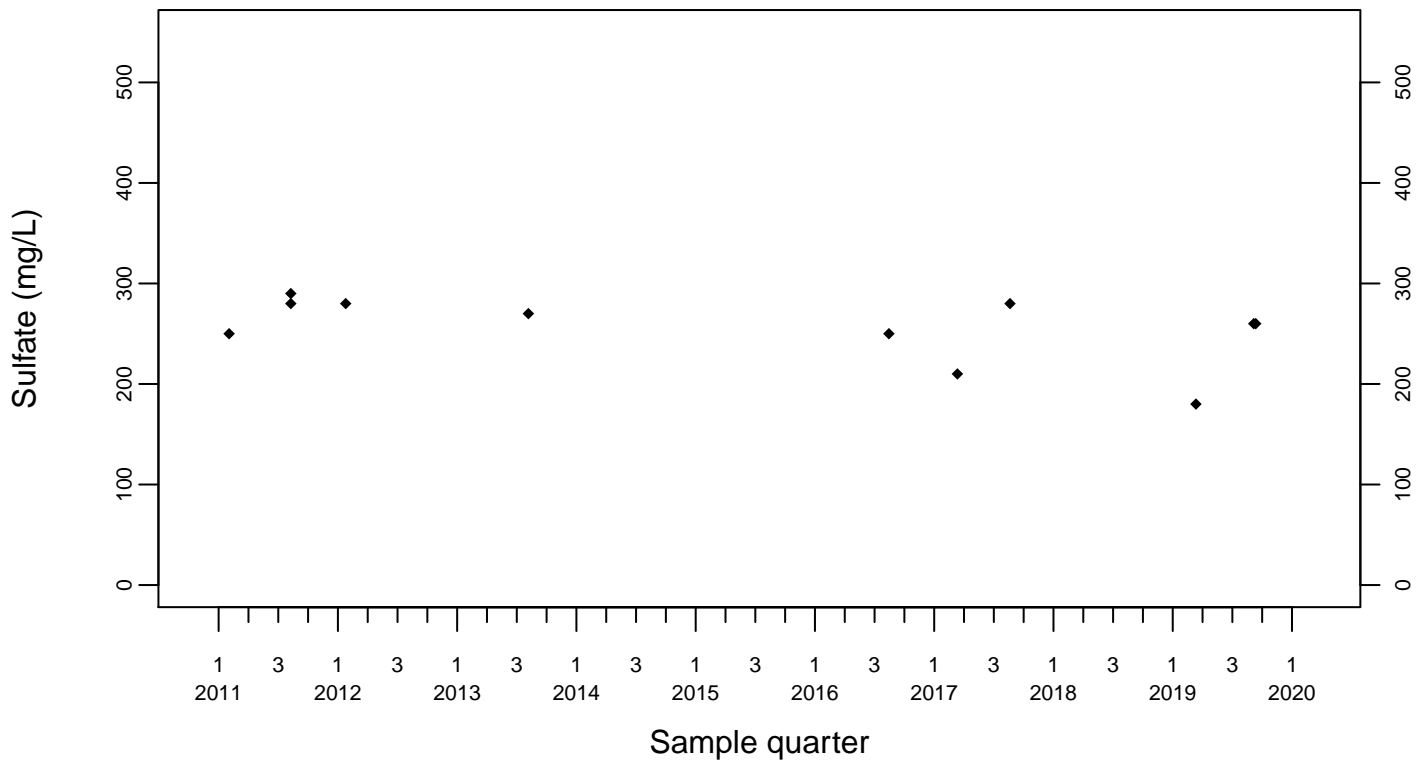
Sewage Ponds Ground Water
Sulfate (mg/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



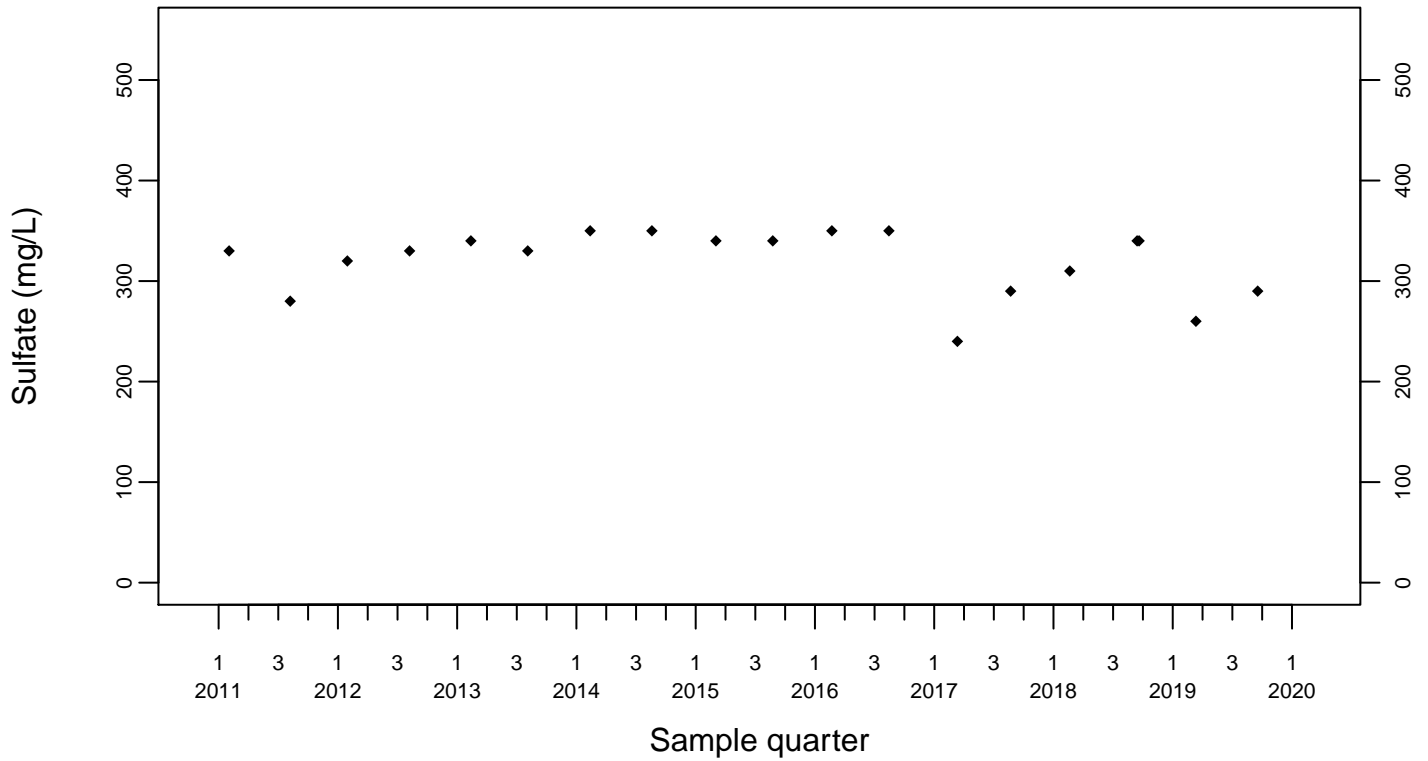
Upgradient Monitor Well W-7PS



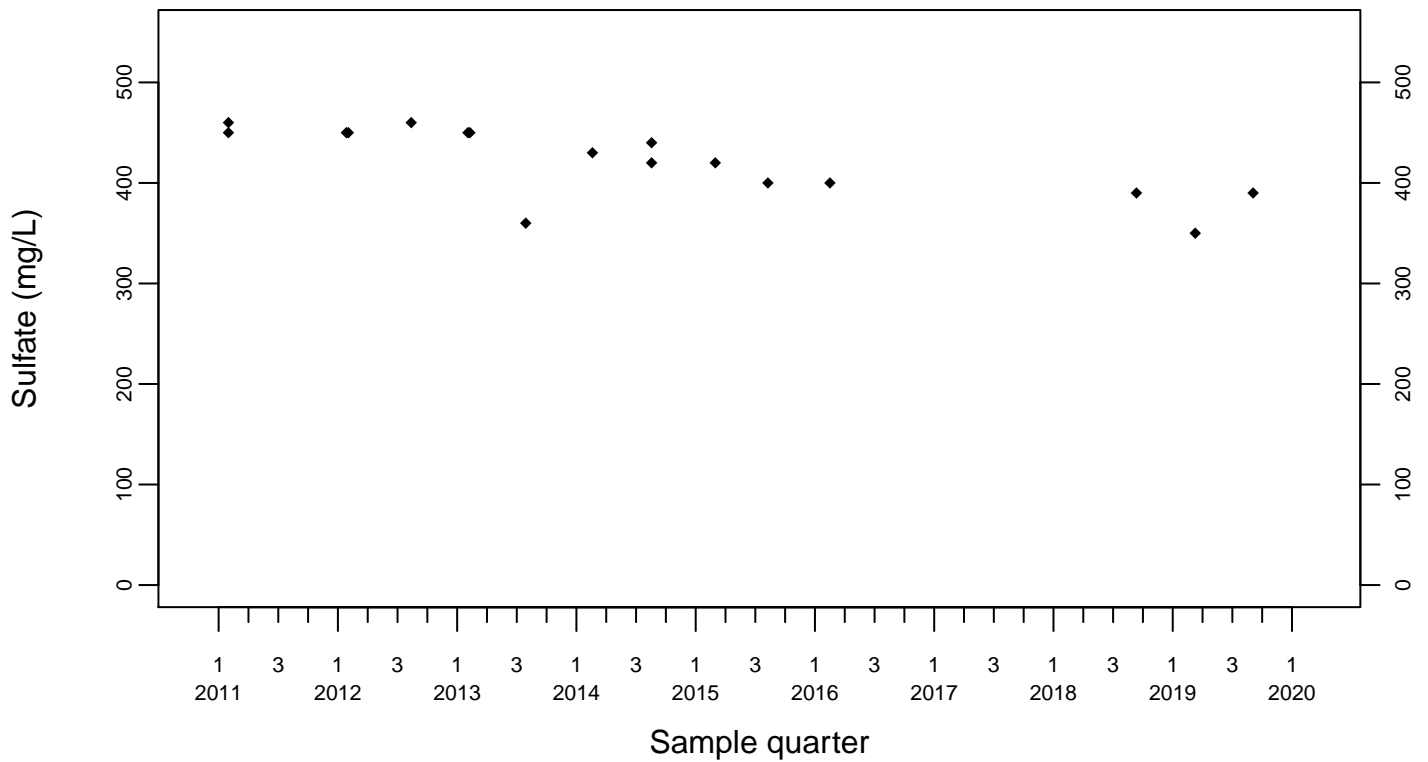
Sewage Ponds Ground Water
Sulfate (mg/L)

Crossgradient Monitor Well W-35A-04

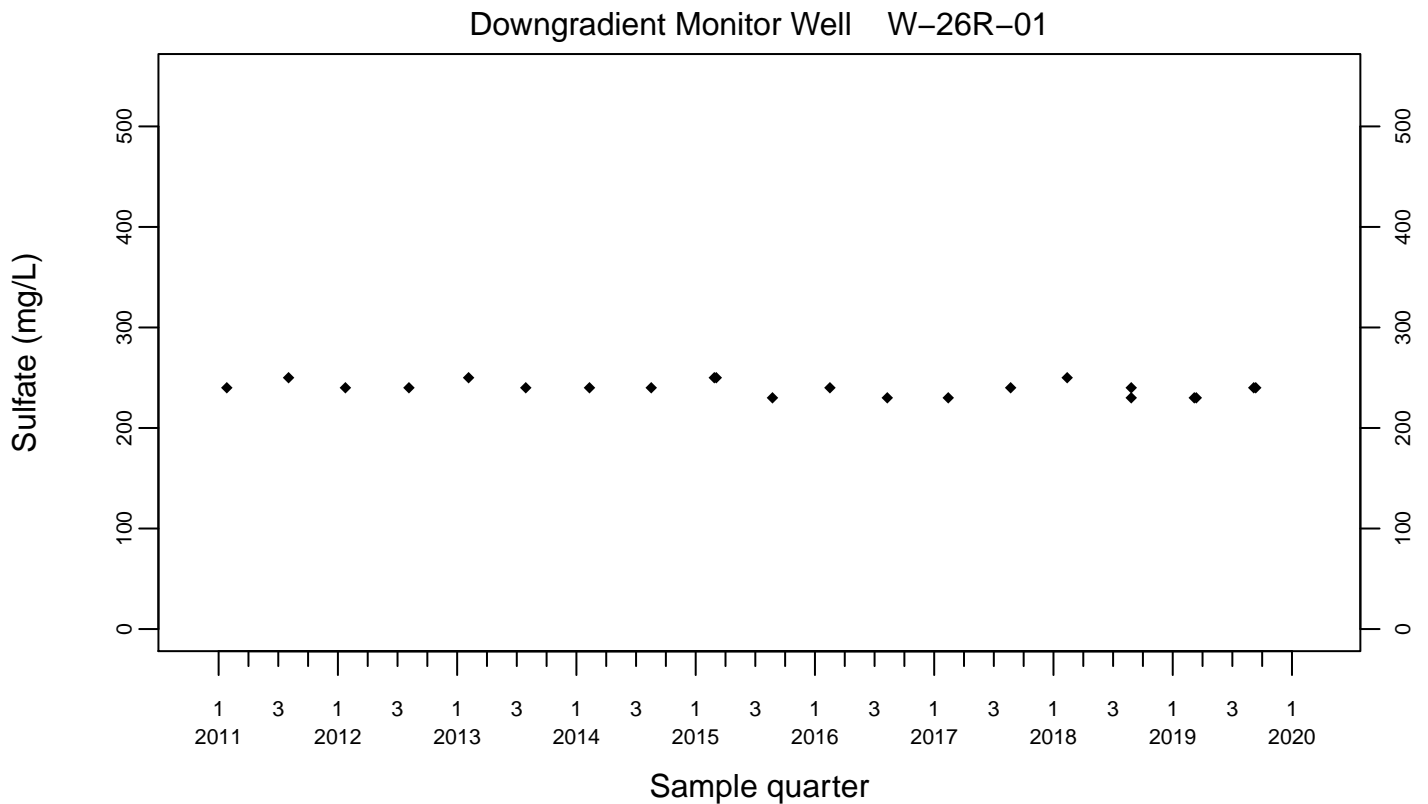
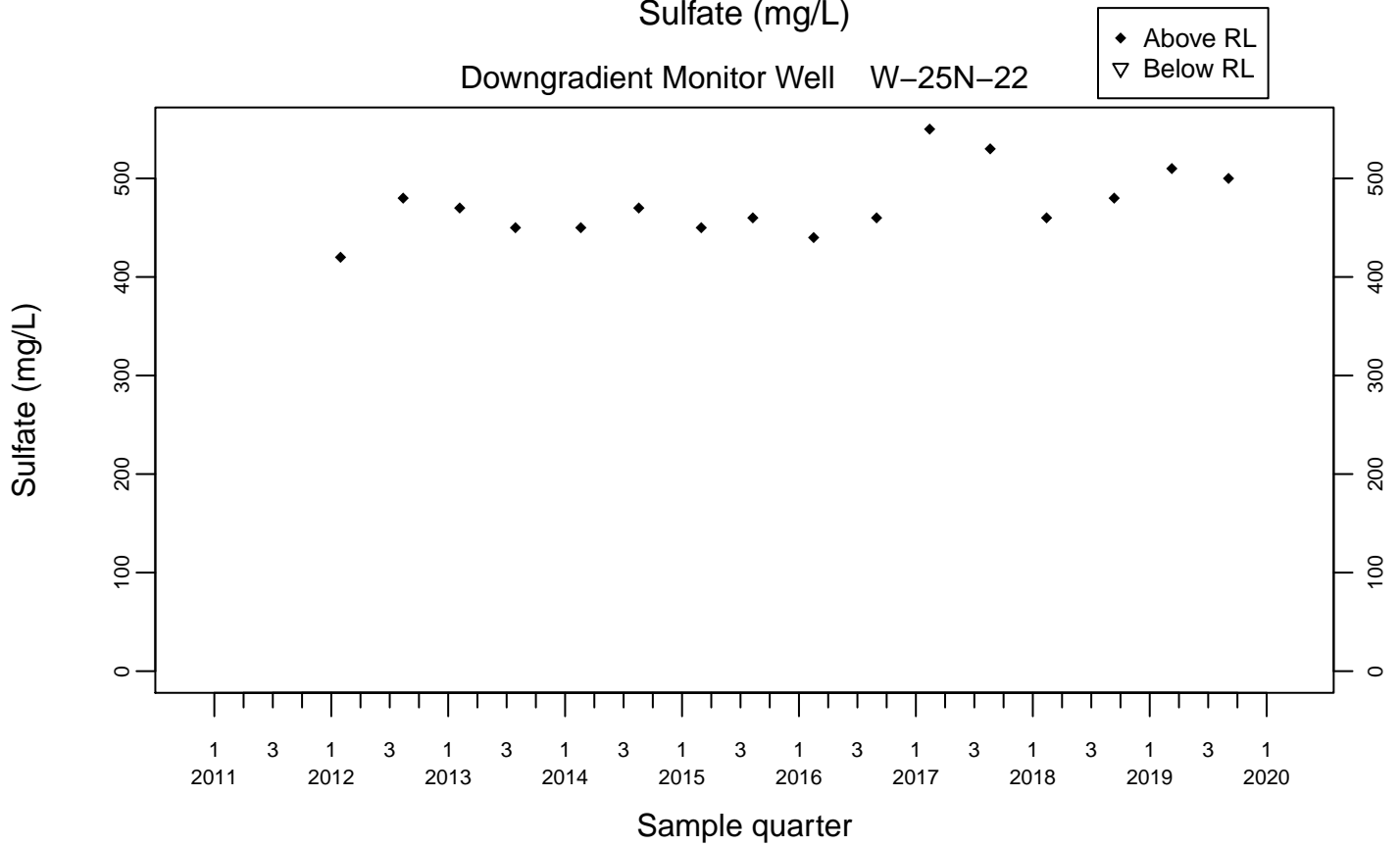
◆ Above RL
▽ Below RL



Downgradient Monitor Well W-25N-23



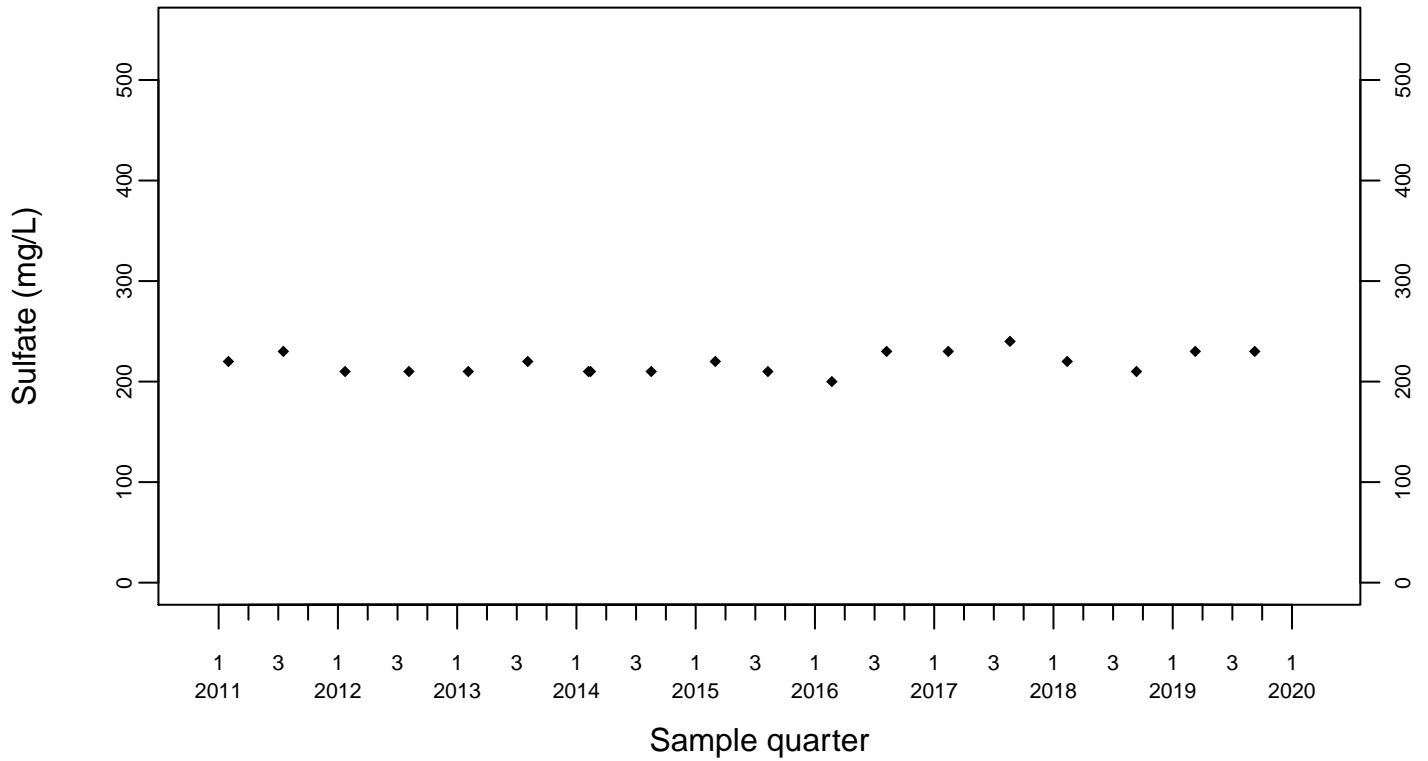
Sewage Ponds Ground Water
Sulfate (mg/L)



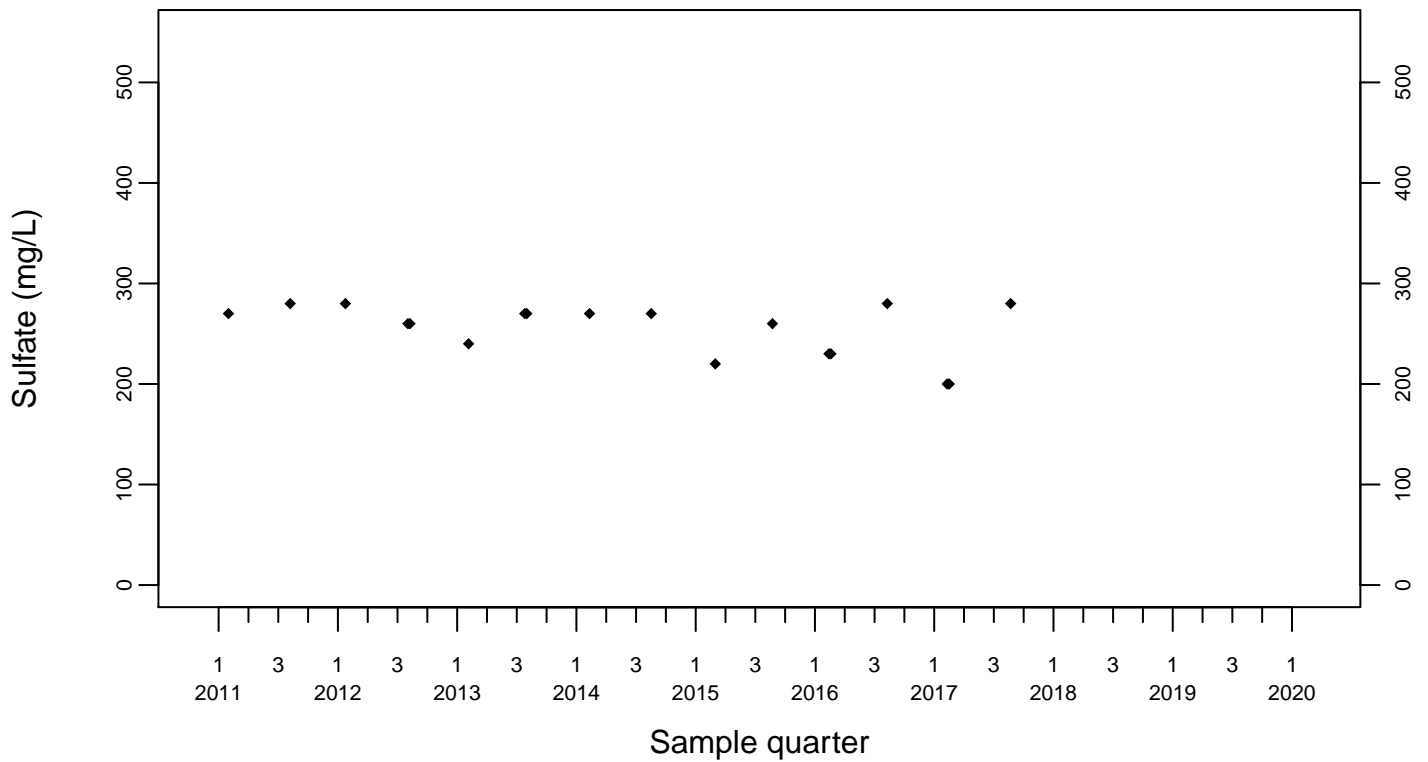
Sewage Ponds Ground Water
Sulfate (mg/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



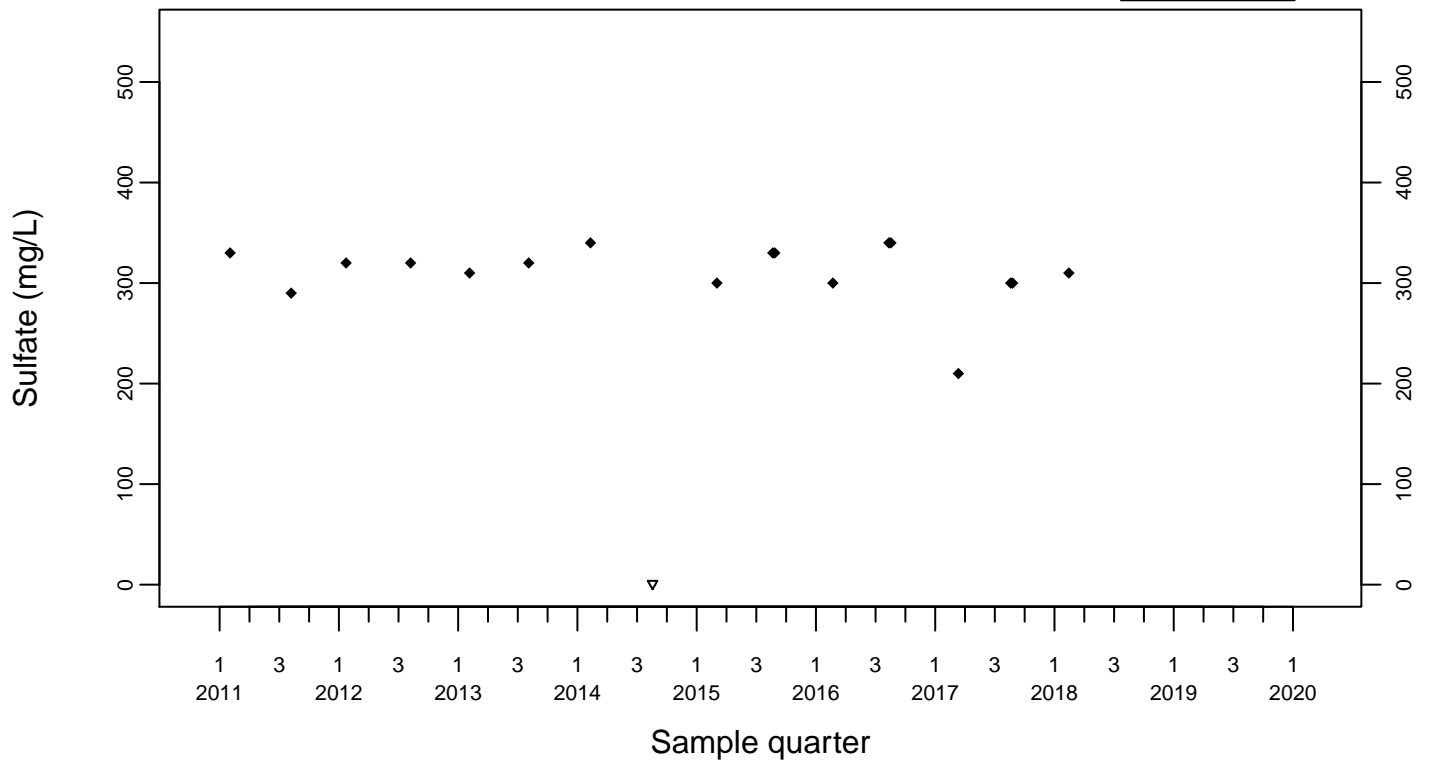
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water Sulfate (mg/L)

Downgradient Monitor Well W-7DS

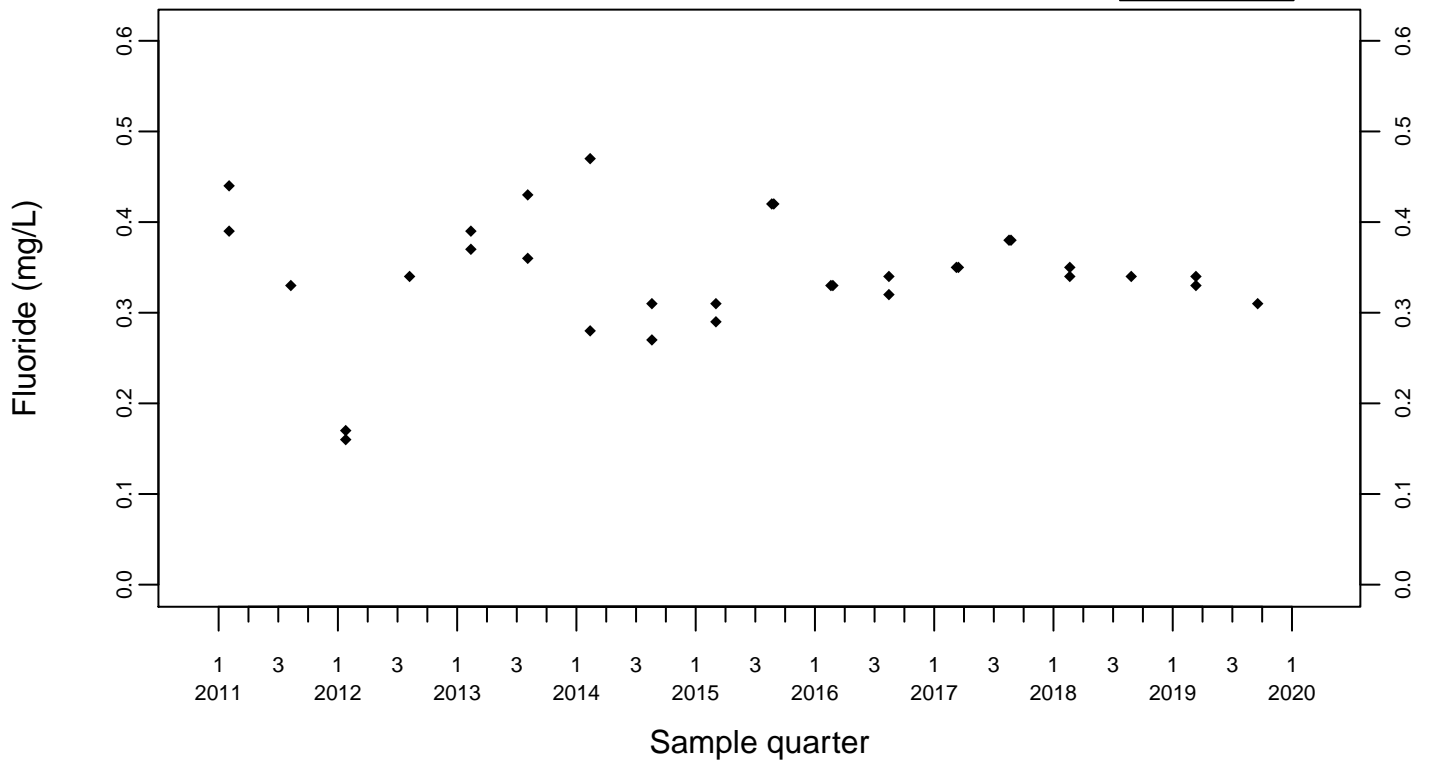
◆ Above RL
▽ Below RL



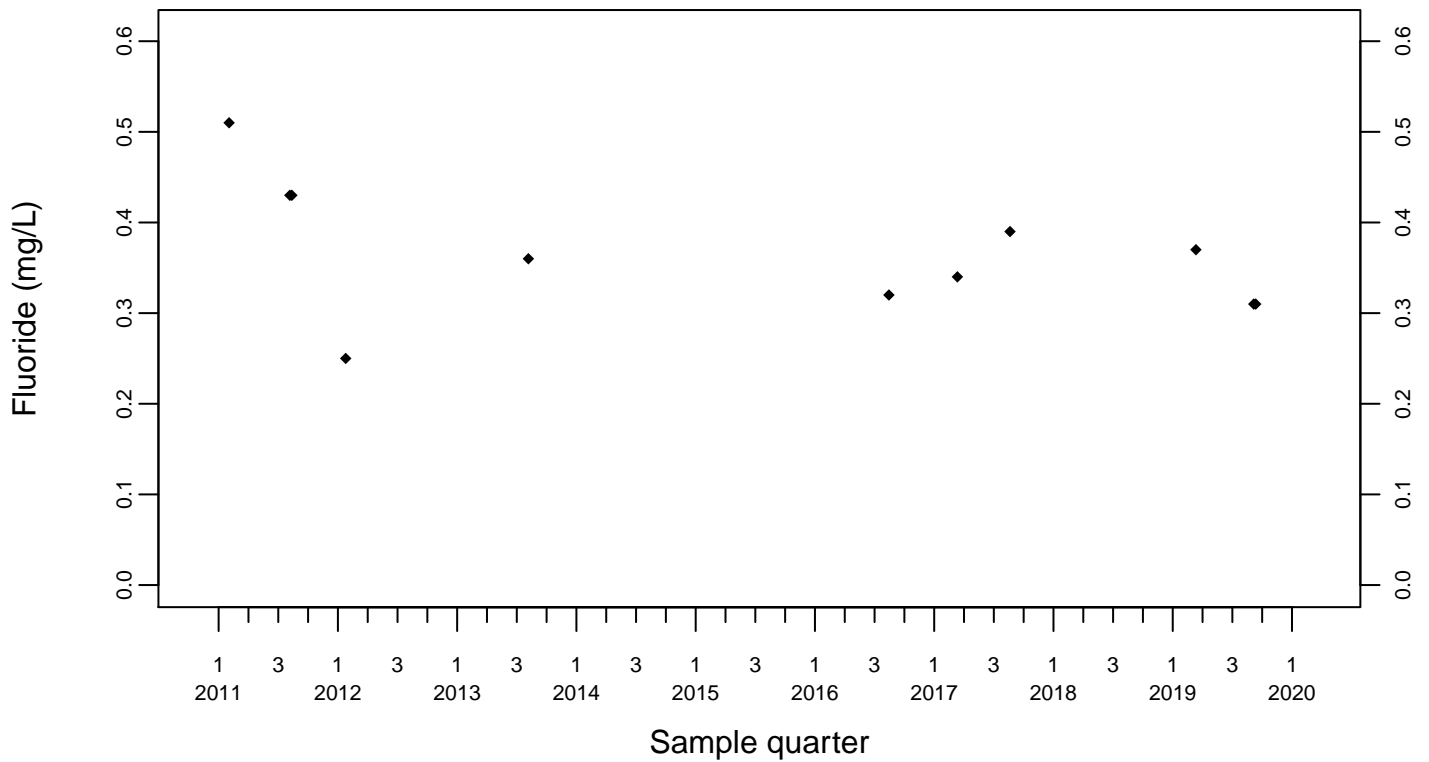
Sewage Ponds Ground Water
Fluoride (mg/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



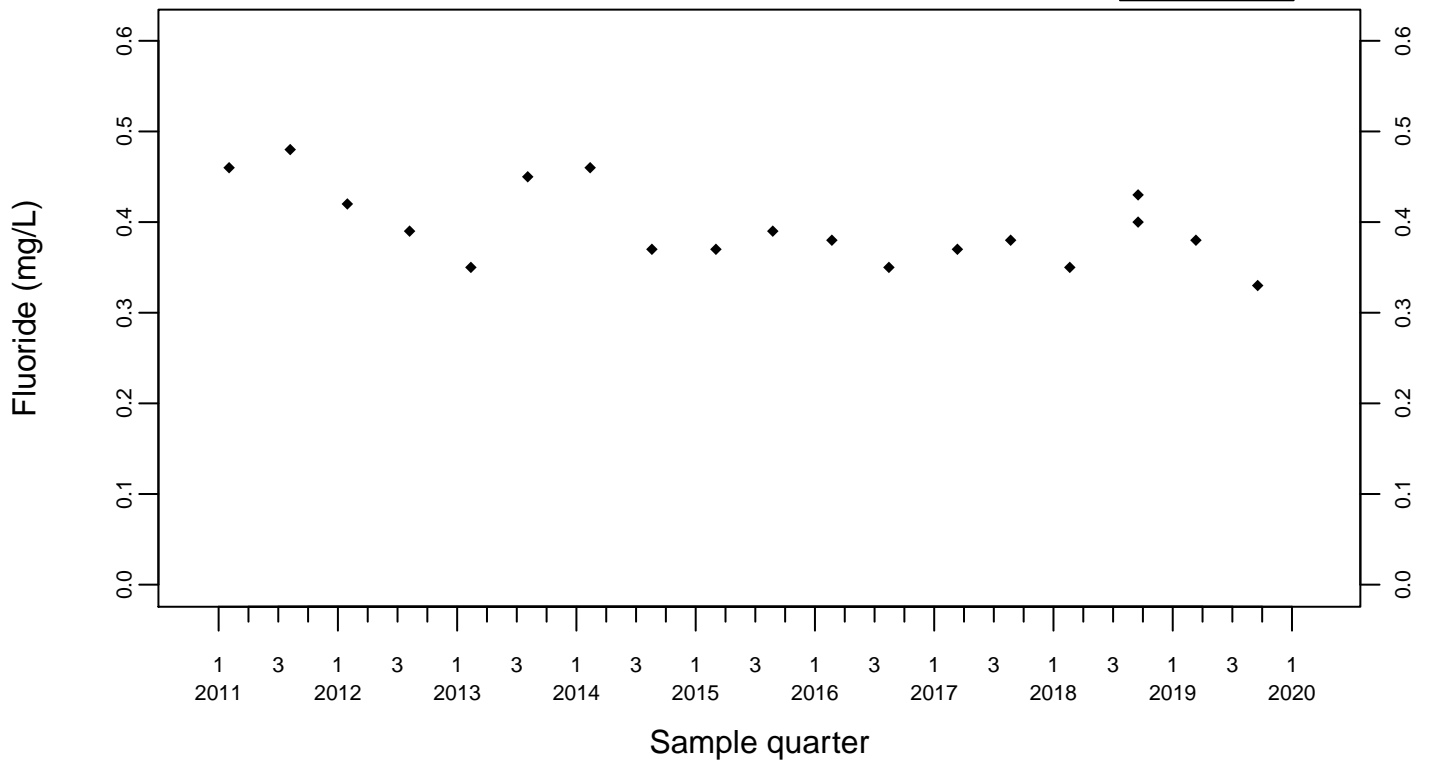
Upgradient Monitor Well W-7PS



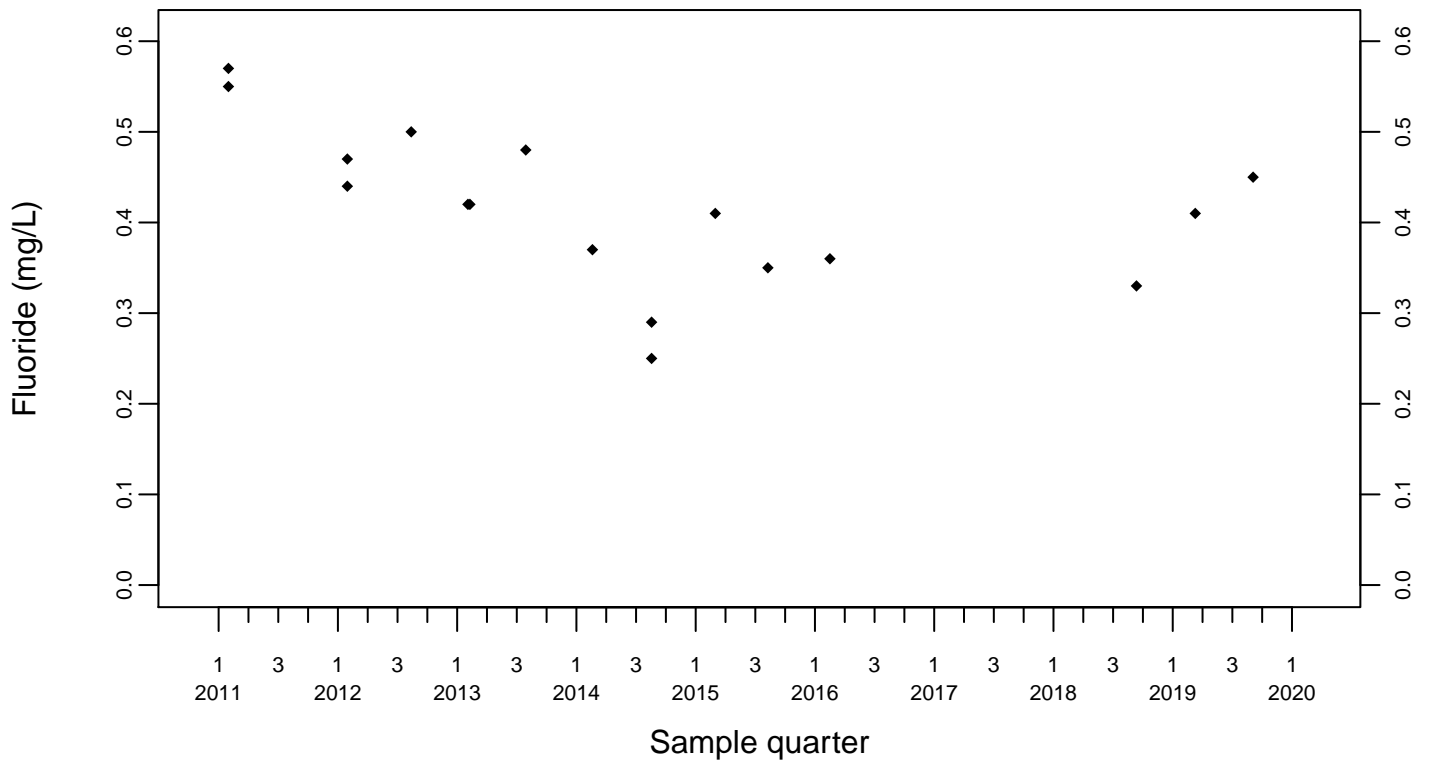
Sewage Ponds Ground Water
Fluoride (mg/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



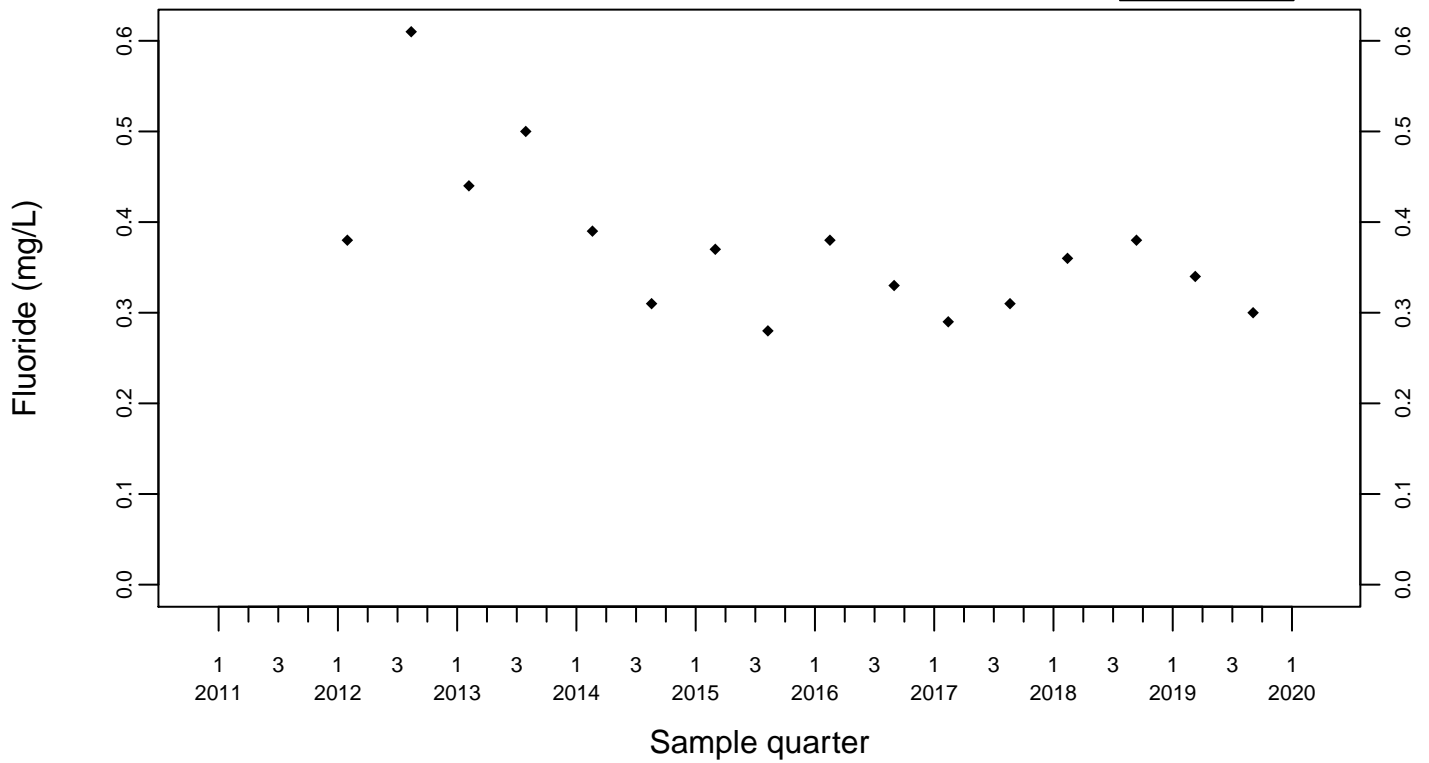
Downgradient Monitor Well W-25N-23



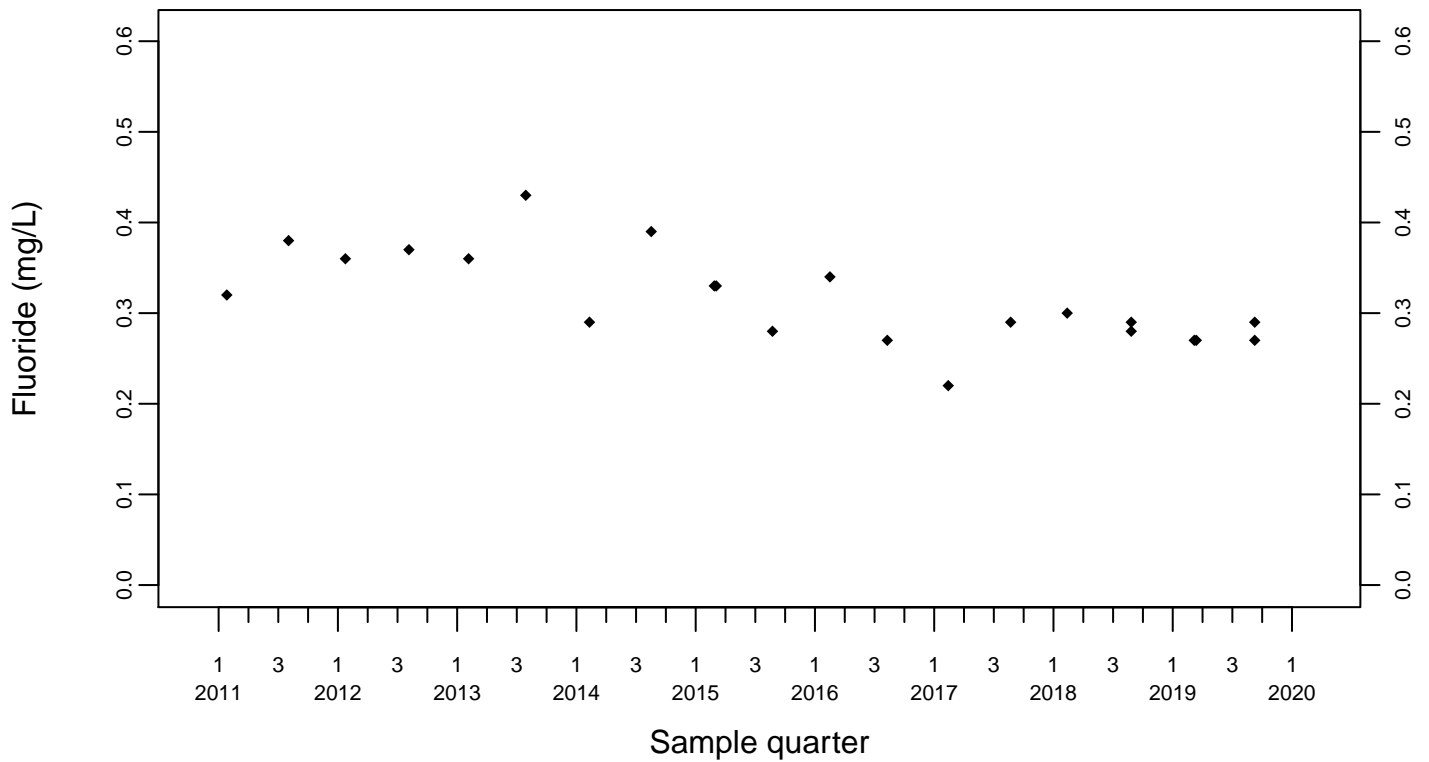
Sewage Ponds Ground Water
Fluoride (mg/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



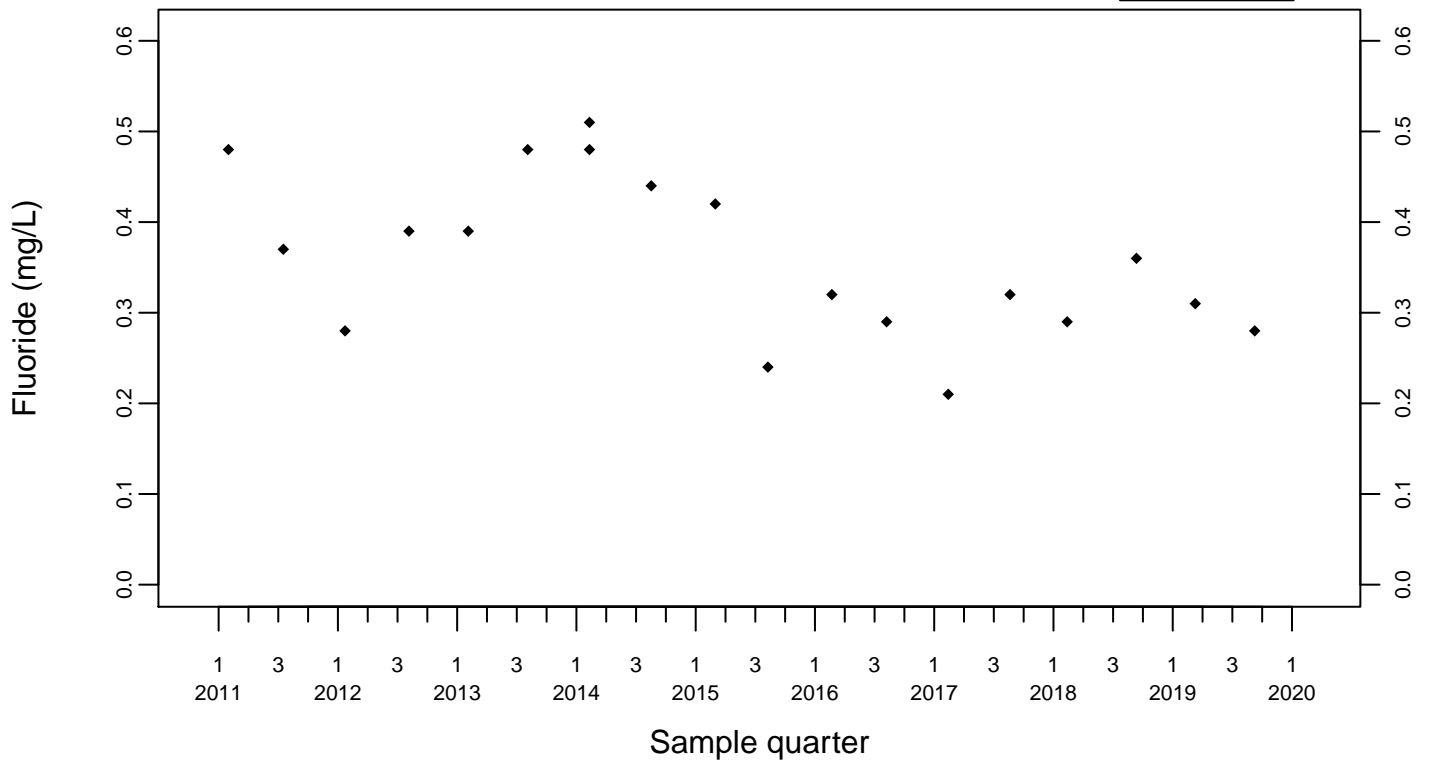
Downgradient Monitor Well W-26R-01



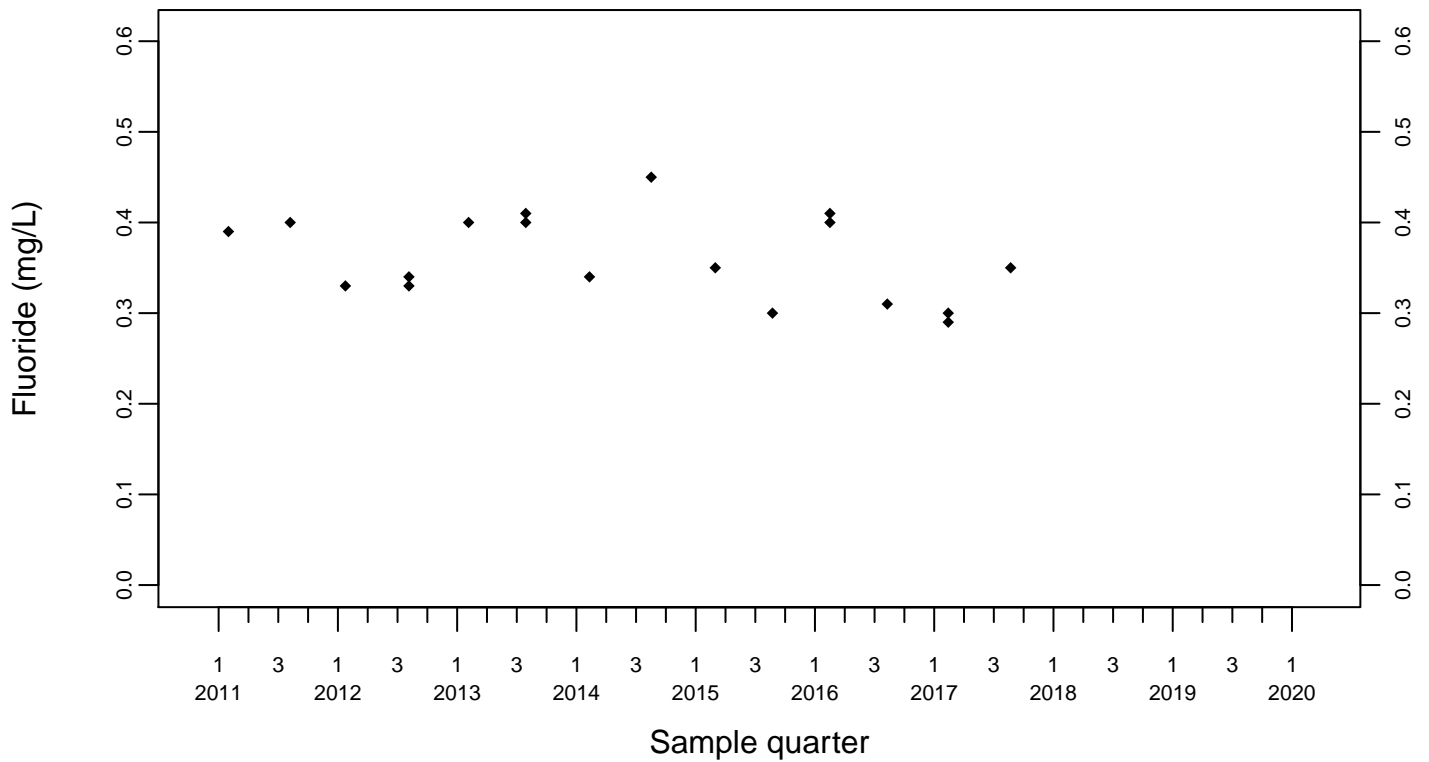
Sewage Ponds Ground Water
Fluoride (mg/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



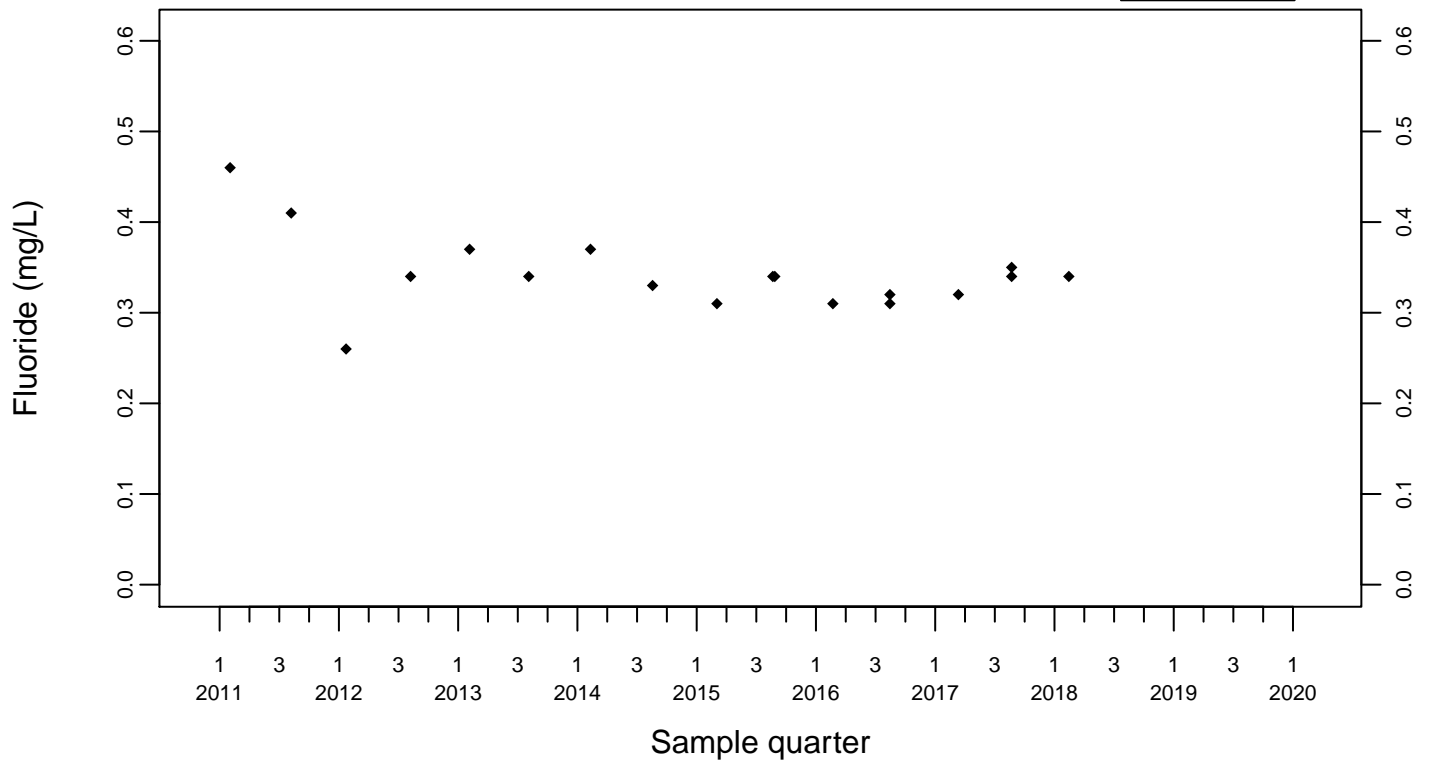
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water Fluoride (mg/L)

Downgradient Monitor Well W-7DS

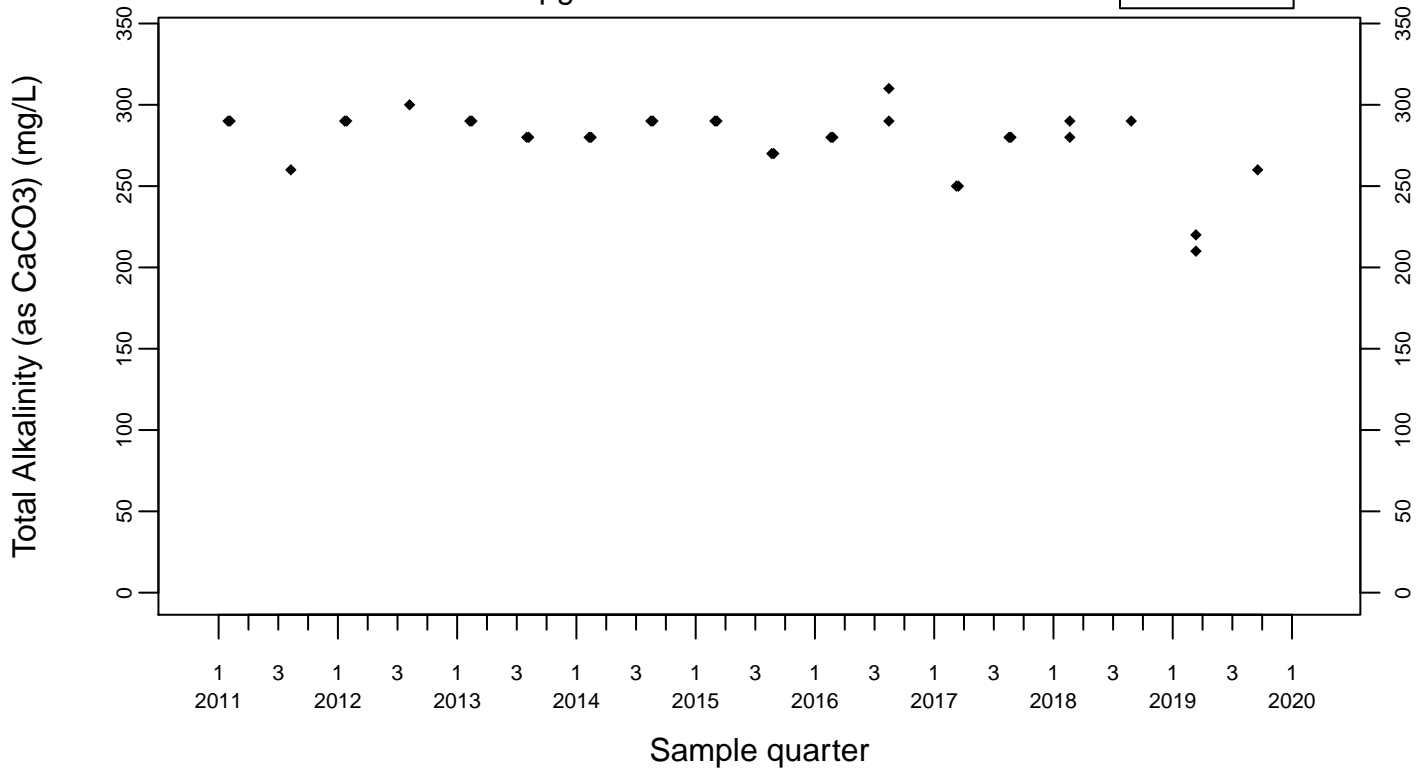
◆ Above RL
▽ Below RL



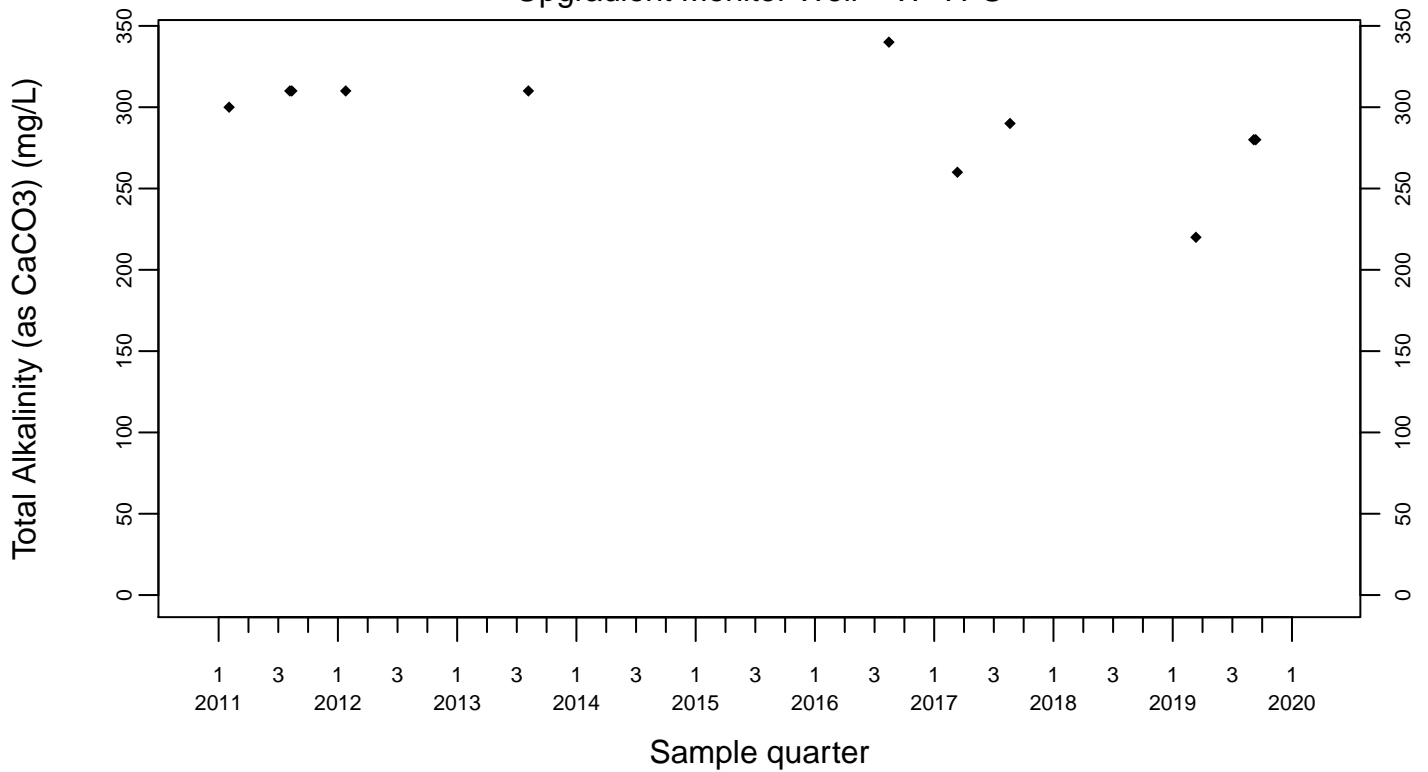
Sewage Ponds Ground Water
Total Alkalinity (as CaCO₃) (mg/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



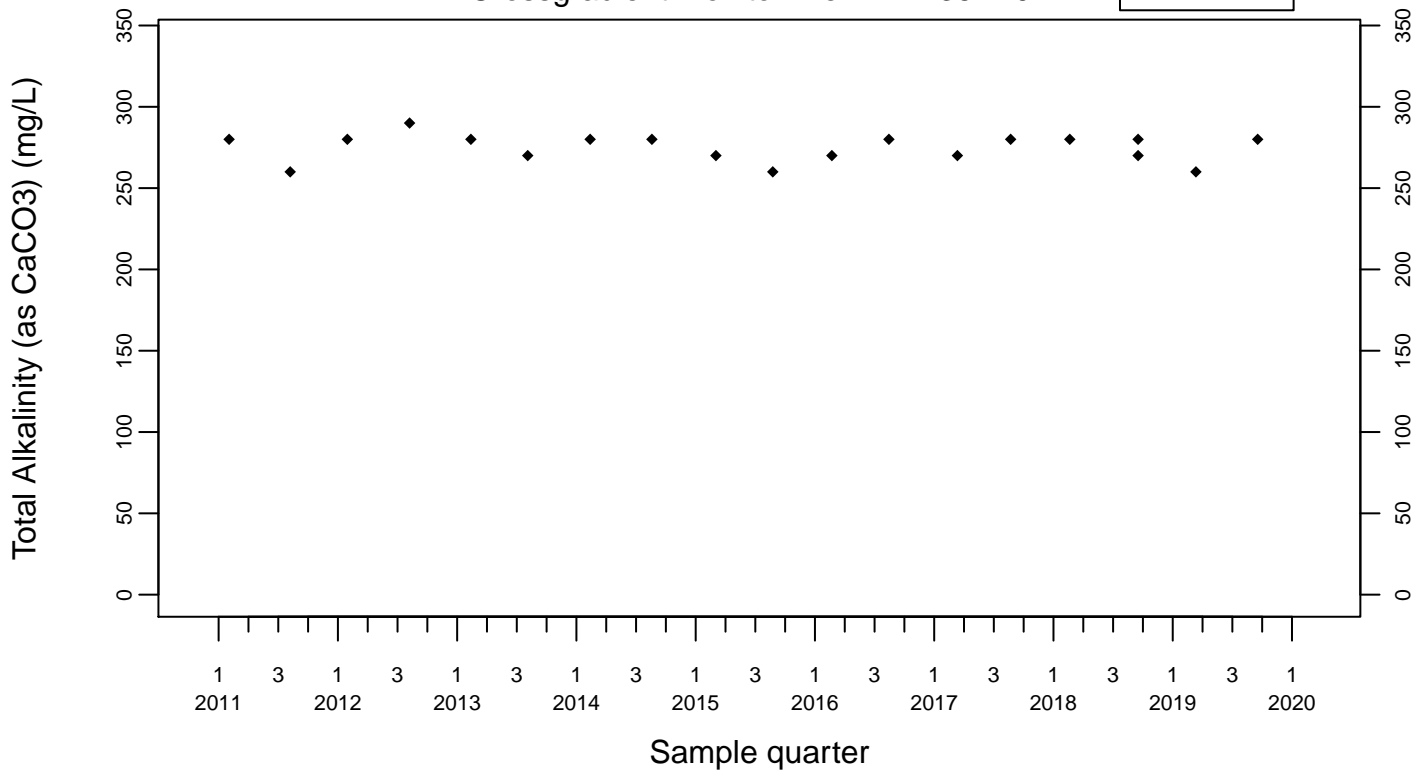
Upgradient Monitor Well W-7PS



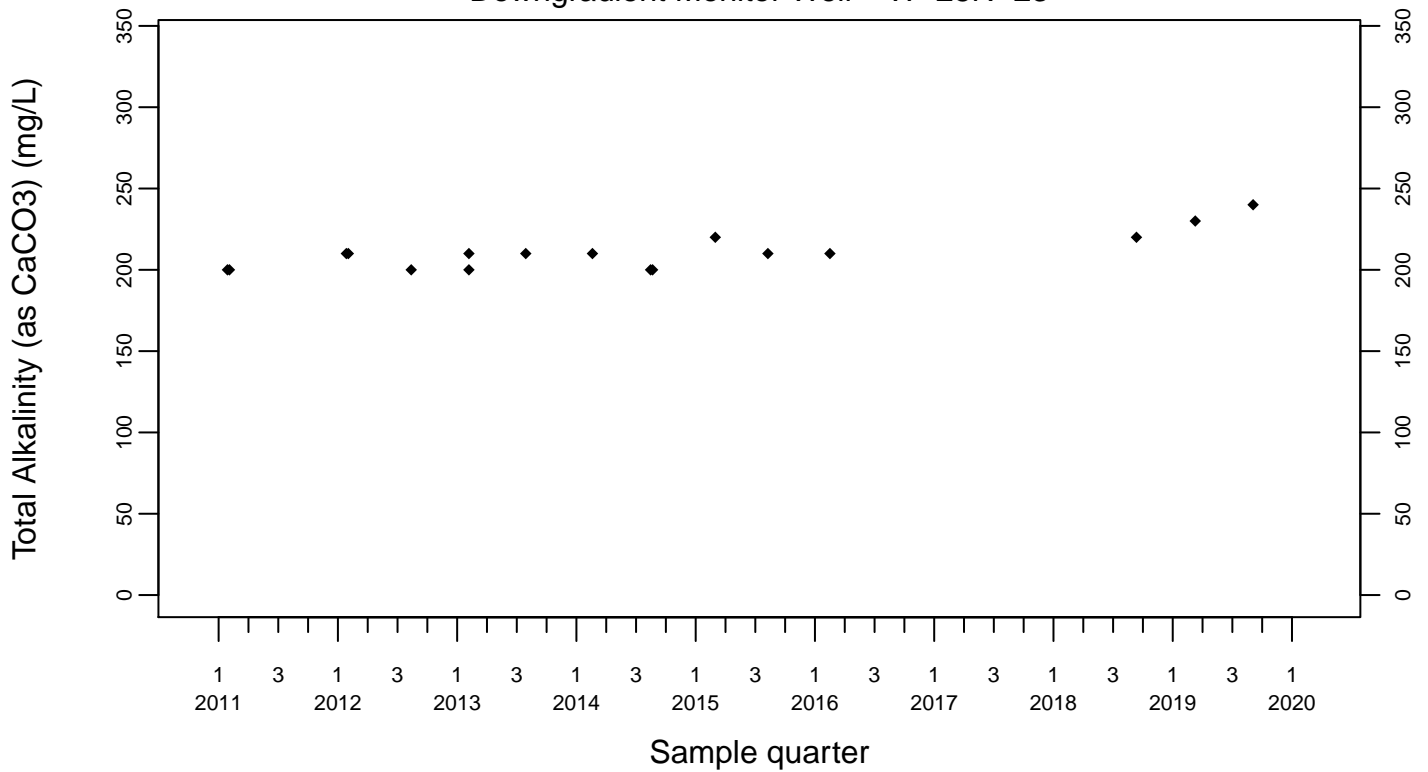
Sewage Ponds Ground Water
Total Alkalinity (as CaCO₃) (mg/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



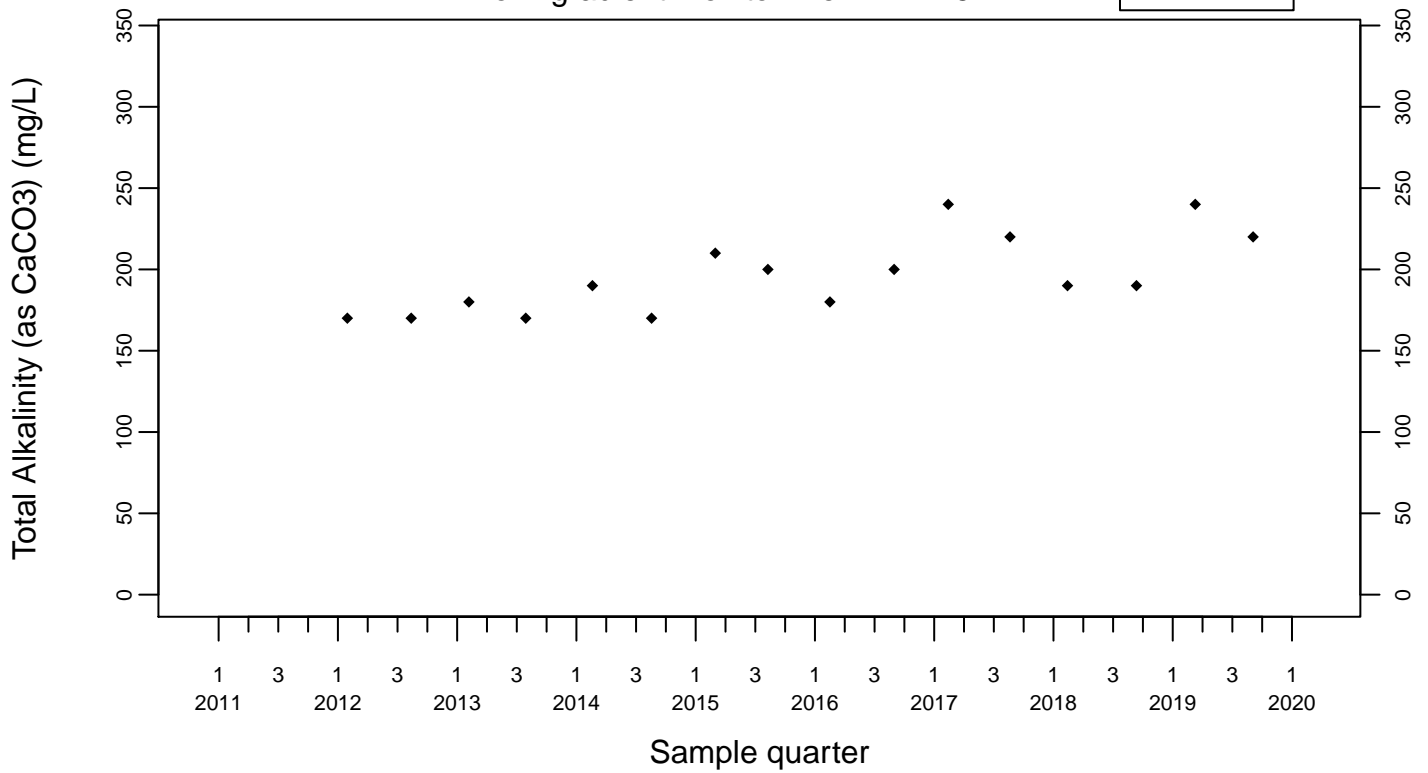
Downgradient Monitor Well W-25N-23



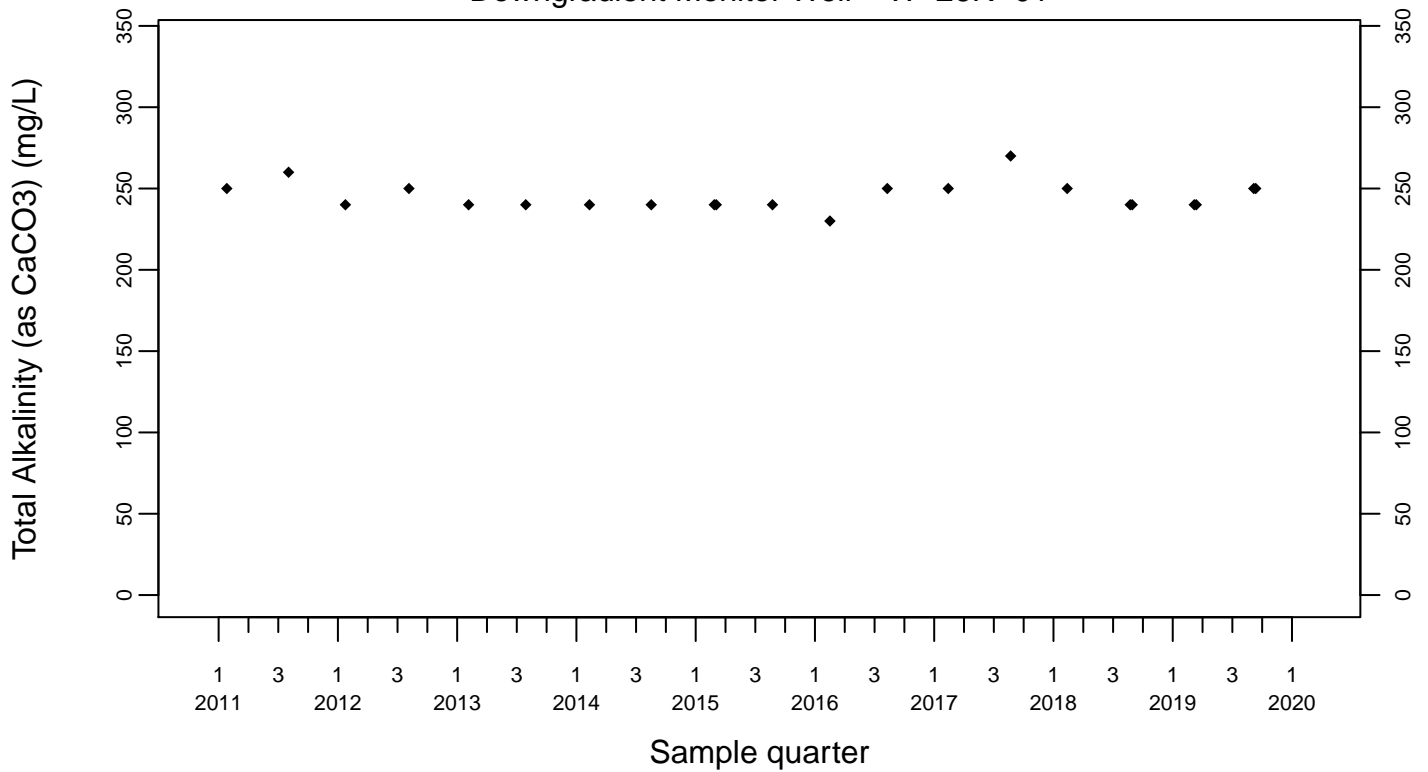
Sewage Ponds Ground Water
Total Alkalinity (as CaCO₃) (mg/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



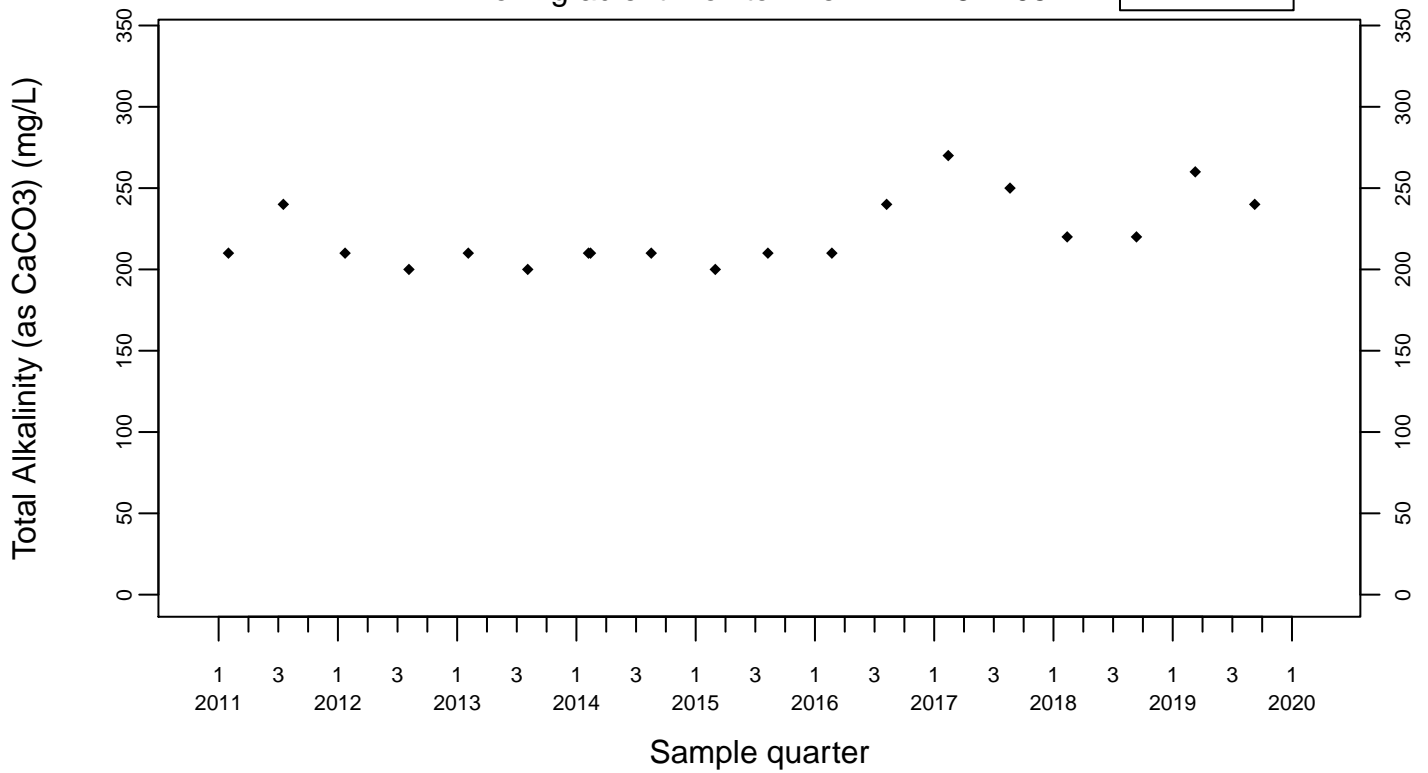
Downgradient Monitor Well W-26R-01



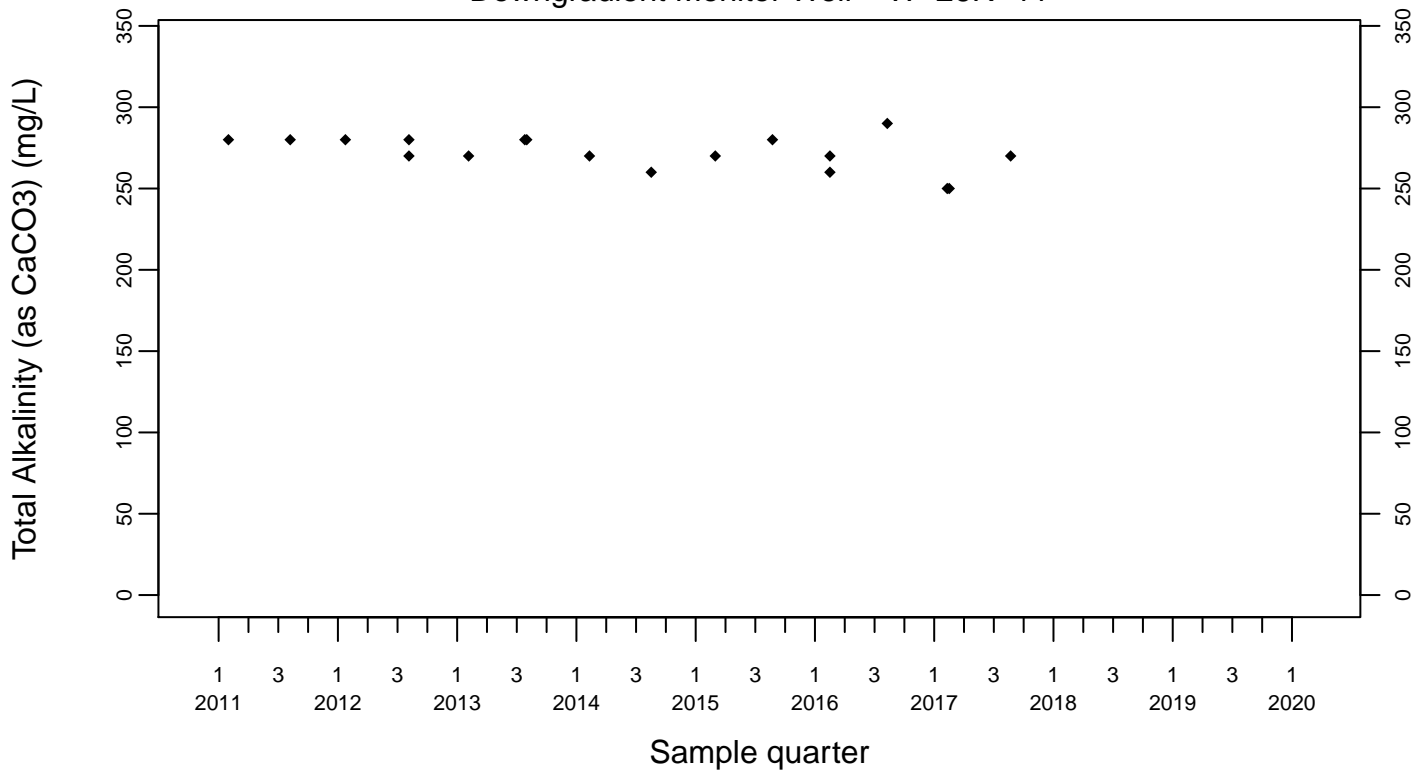
Sewage Ponds Ground Water
Total Alkalinity (as CaCO₃) (mg/L)

Downgradient Monitor Well W-26R-05

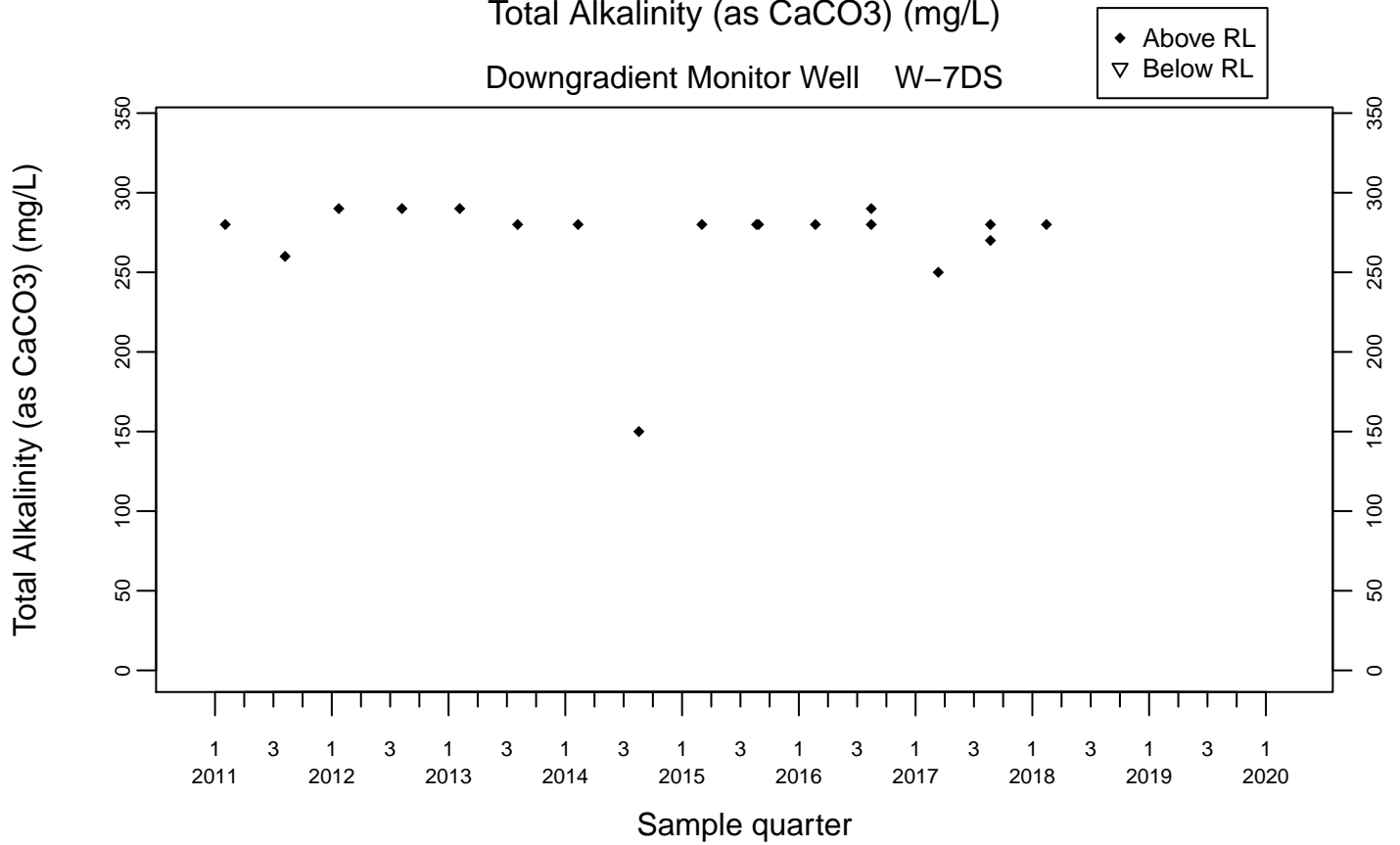
◆ Above RL
▽ Below RL



Downgradient Monitor Well W-26R-11



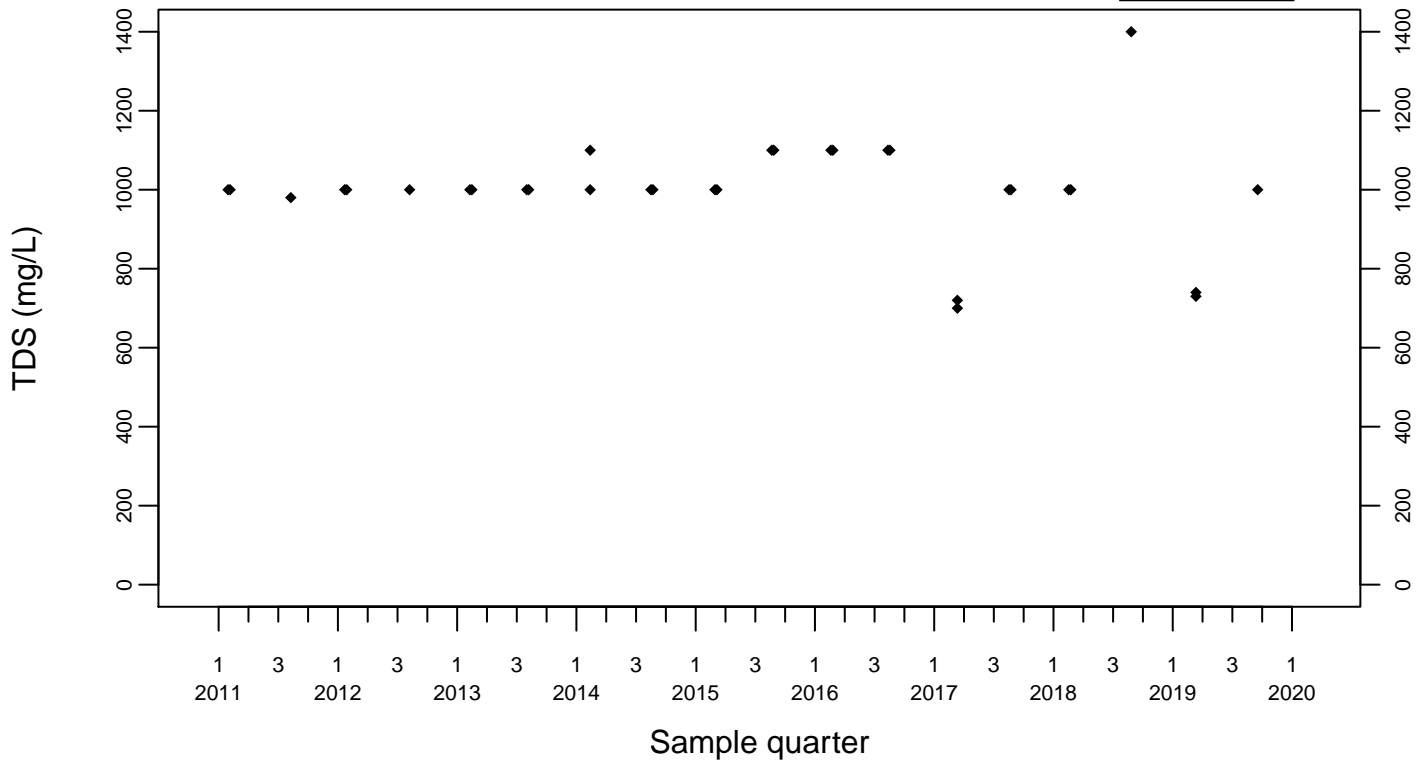
Sewage Ponds Ground Water
Total Alkalinity (as CaCO₃) (mg/L)
Downgradient Monitor Well W-7DS



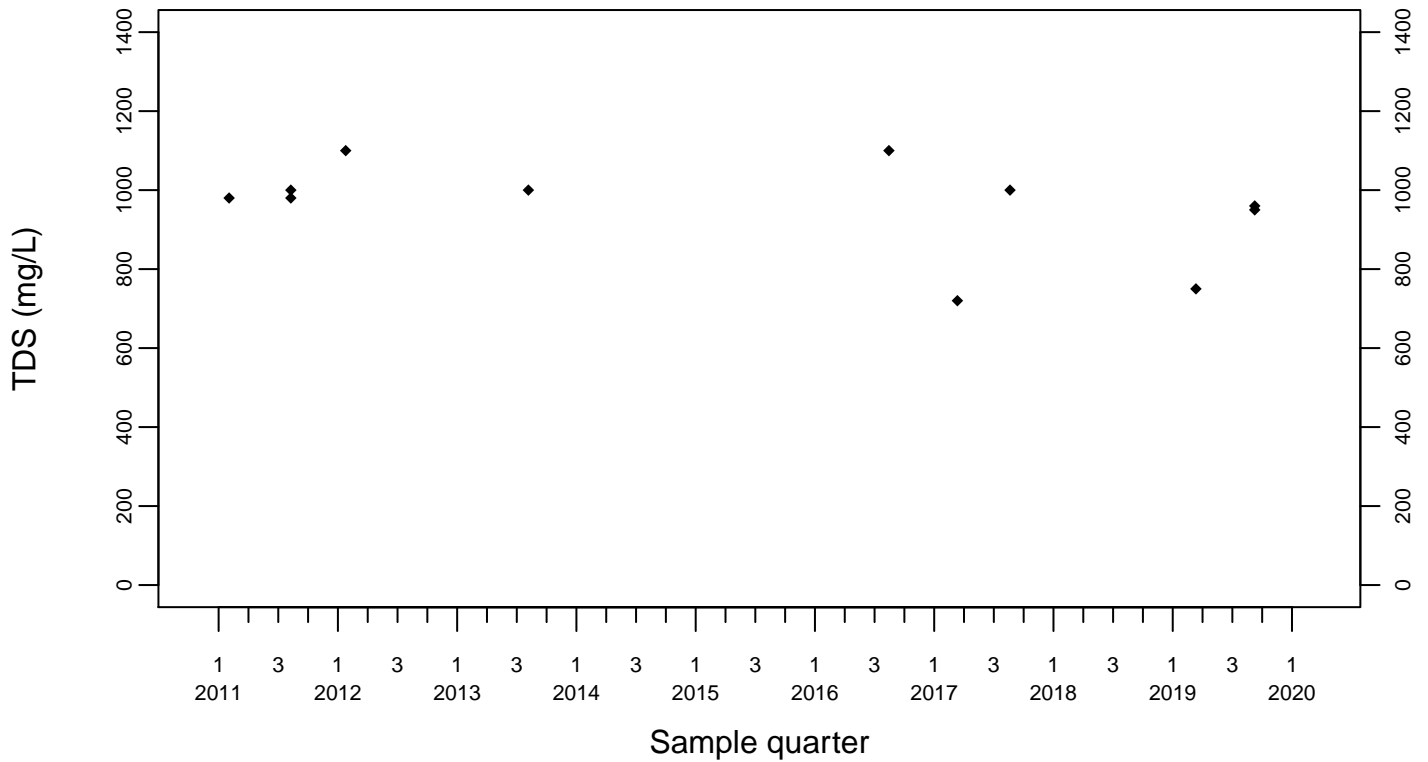
Sewage Ponds Ground Water
TDS (mg/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



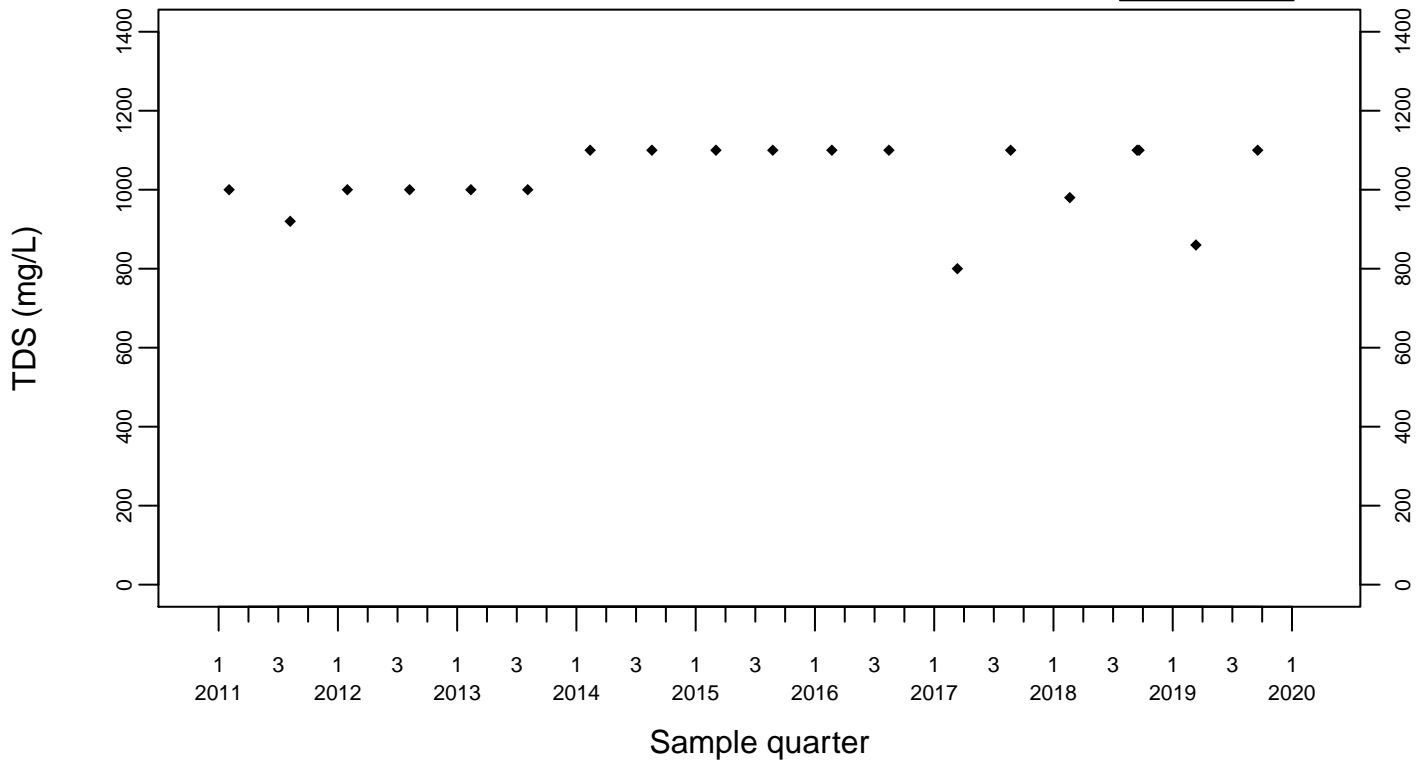
Upgradient Monitor Well W-7PS



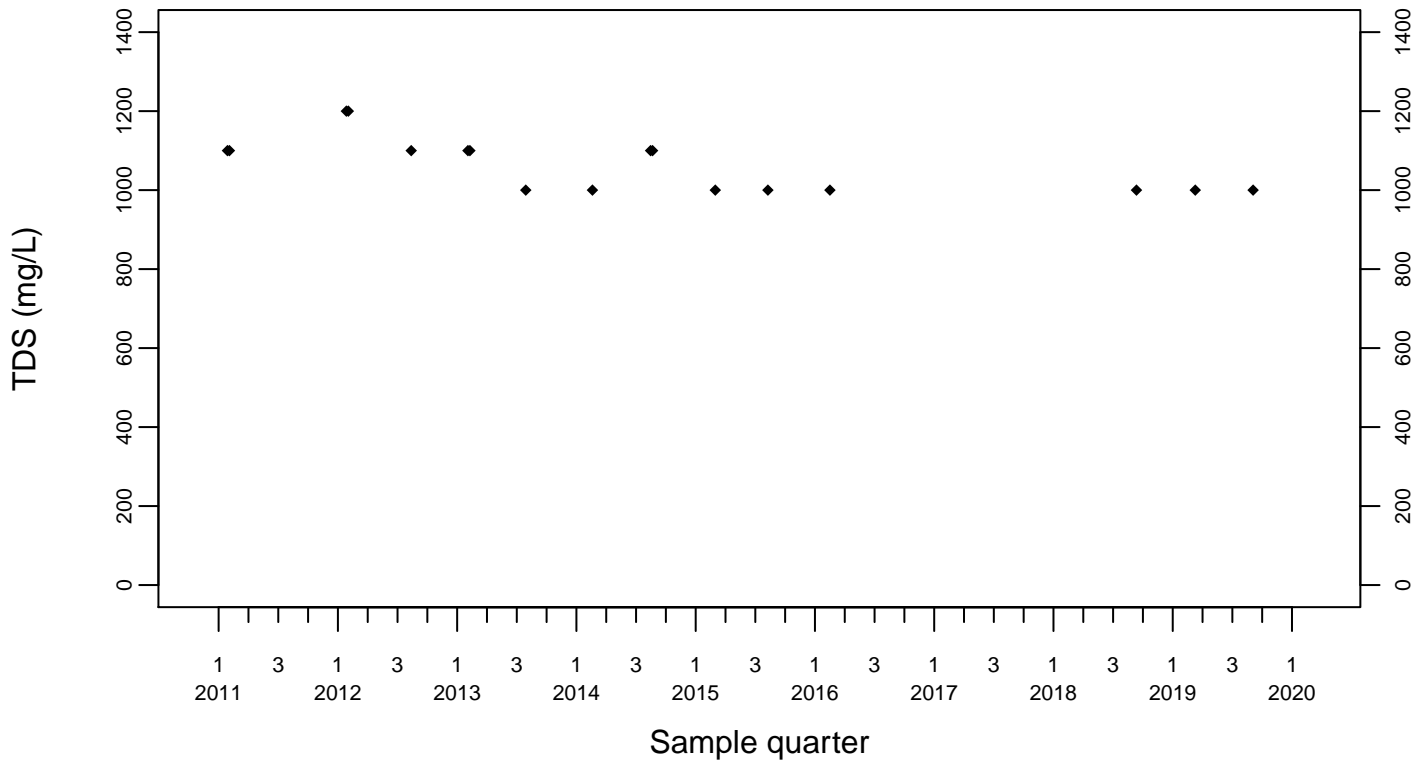
Sewage Ponds Ground Water
TDS (mg/L)

Crossgradient Monitor Well W-35A-04

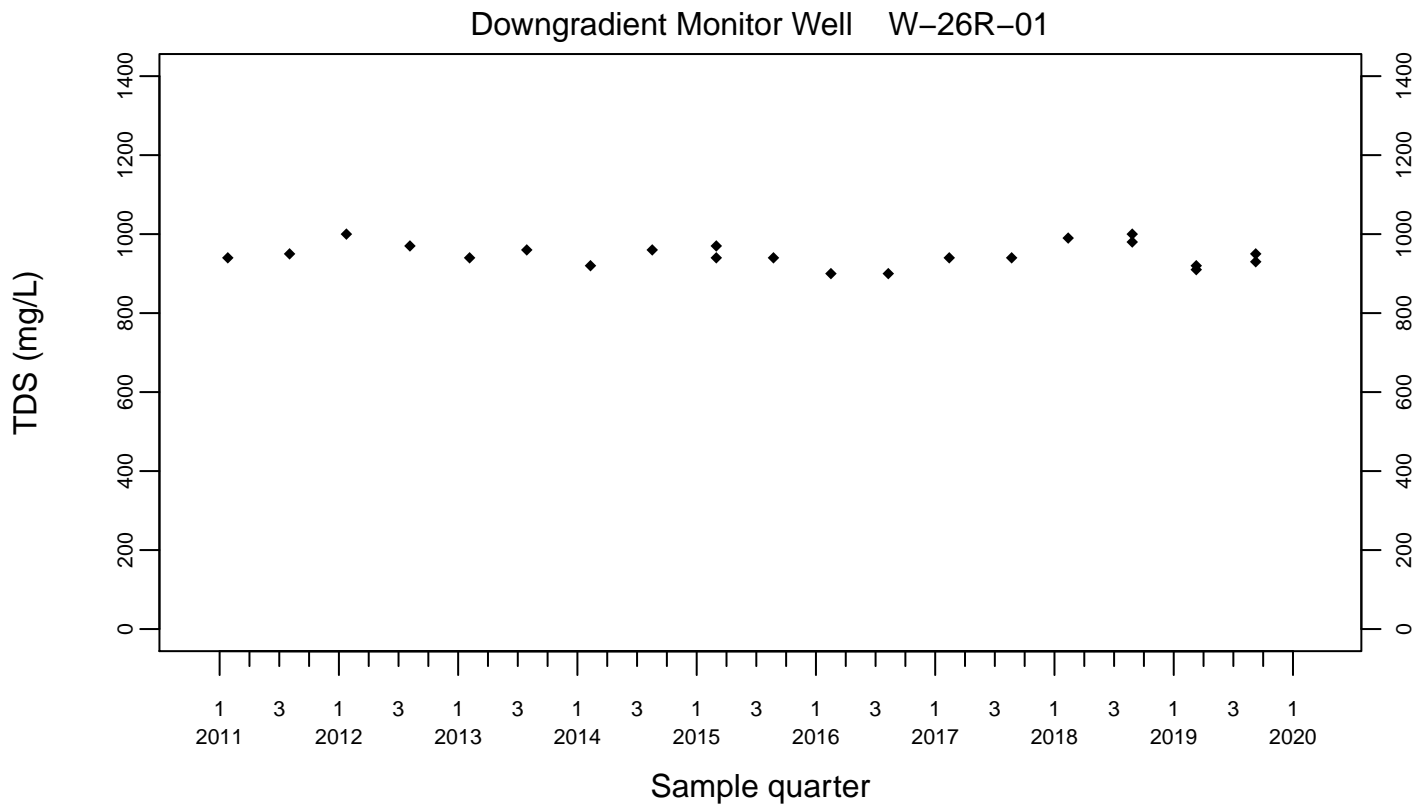
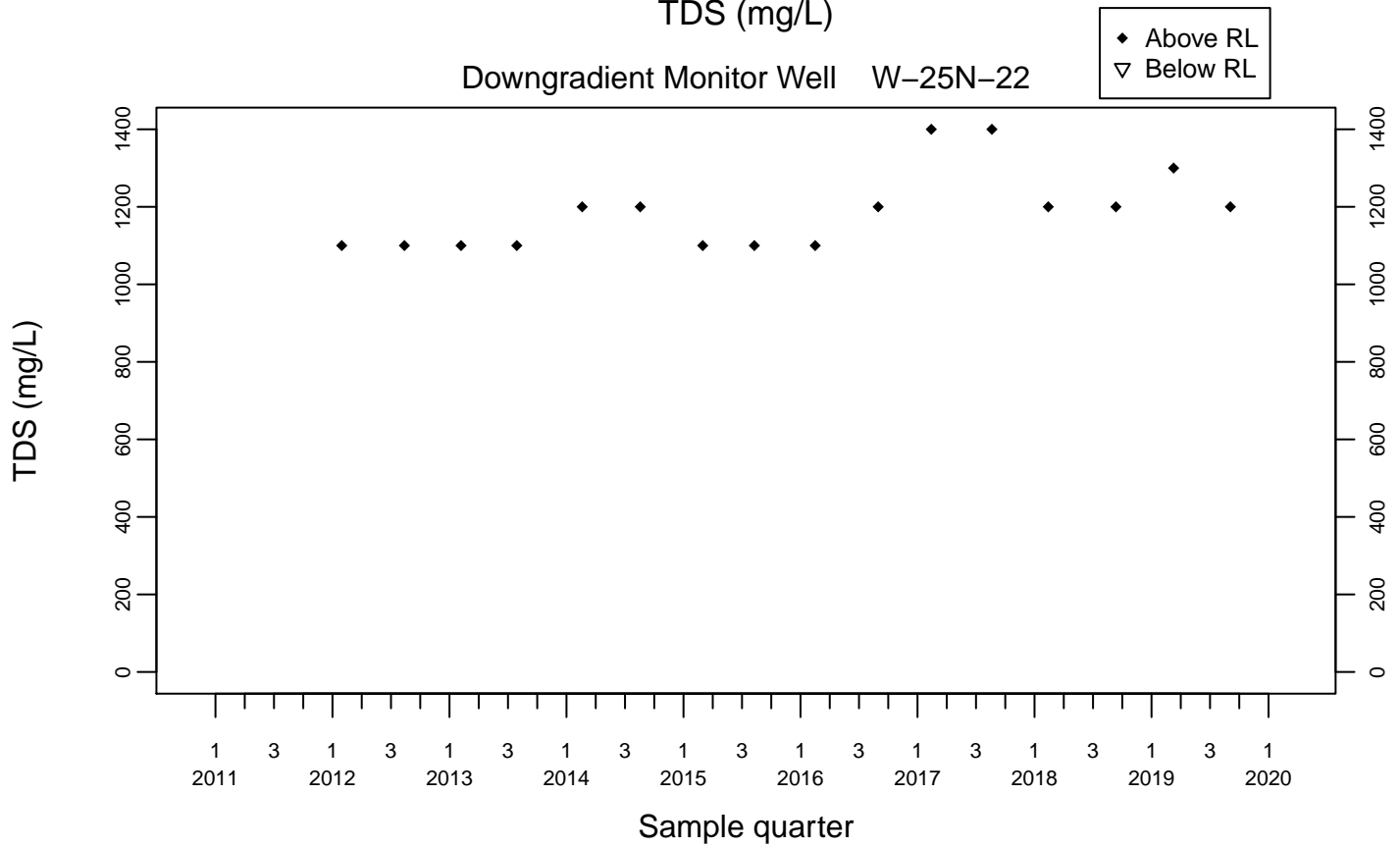
◆ Above RL
▽ Below RL



Downgradient Monitor Well W-25N-23



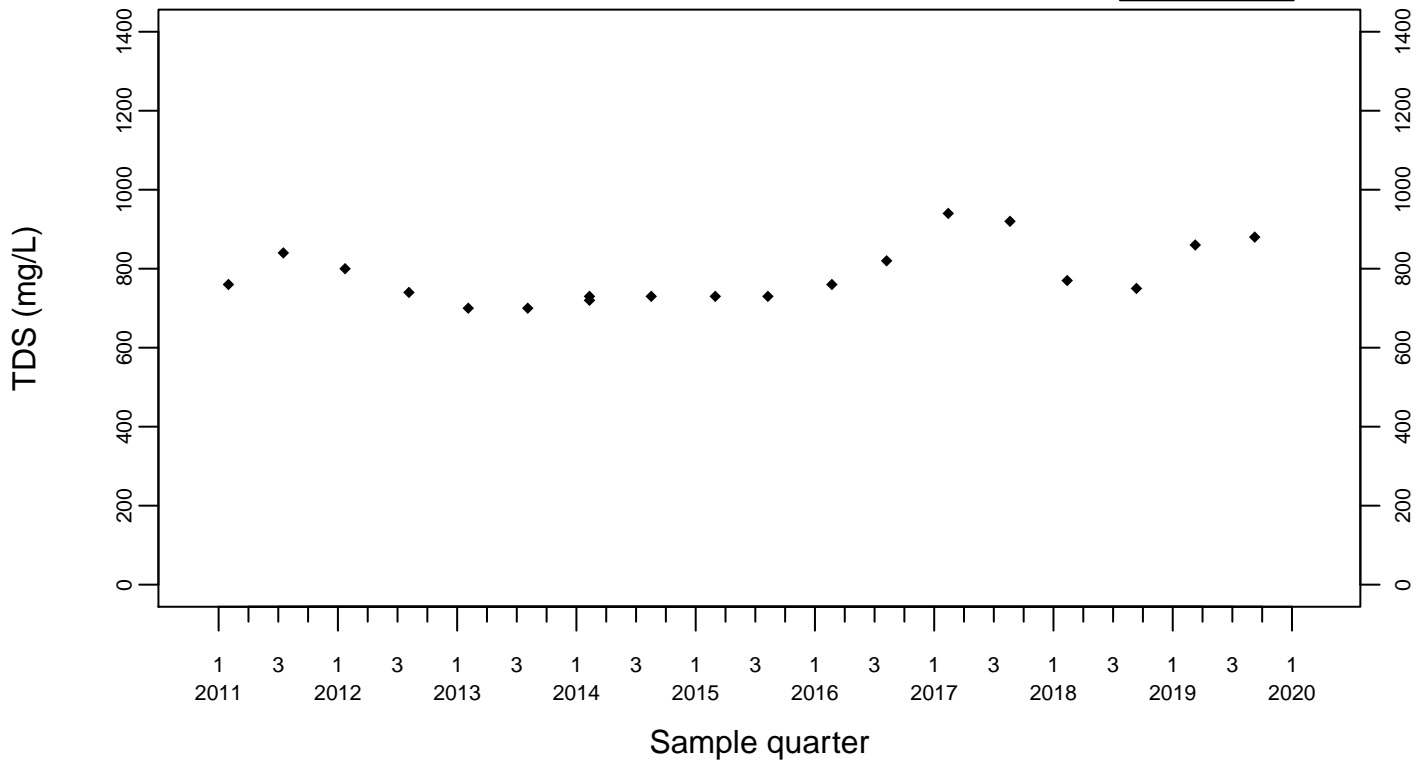
Sewage Ponds Ground Water
TDS (mg/L)



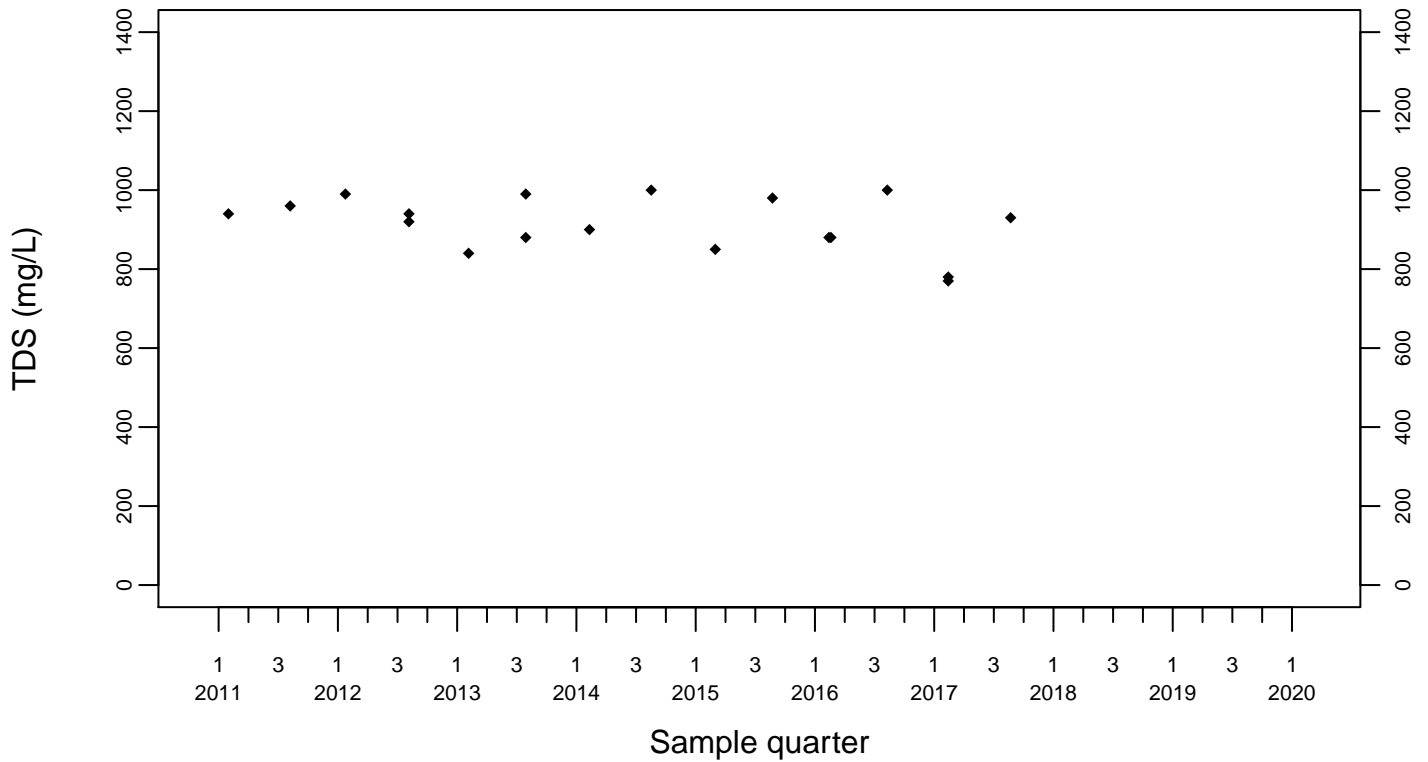
Sewage Ponds Ground Water
TDS (mg/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



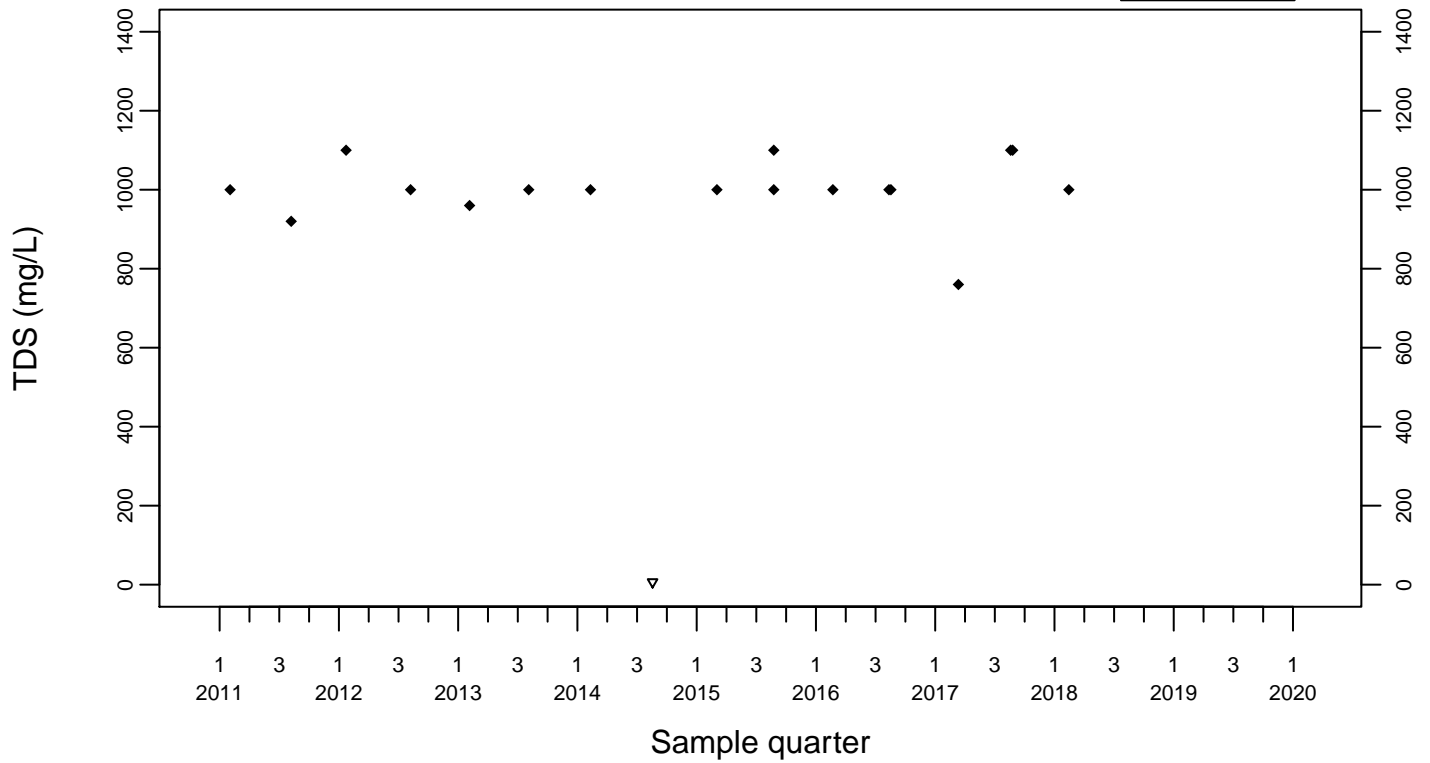
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water TDS (mg/L)

Downgradient Monitor Well W-7DS

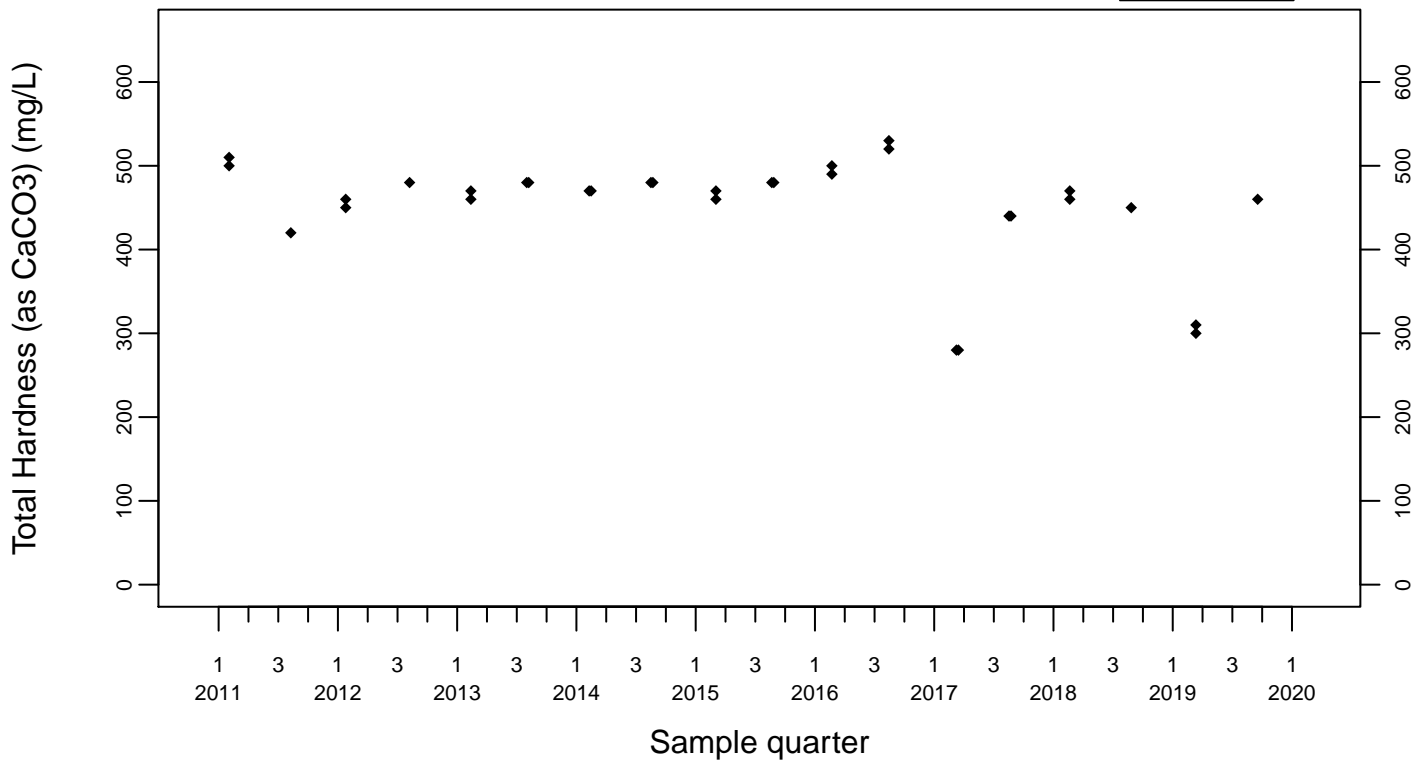
◆ Above RL
▽ Below RL



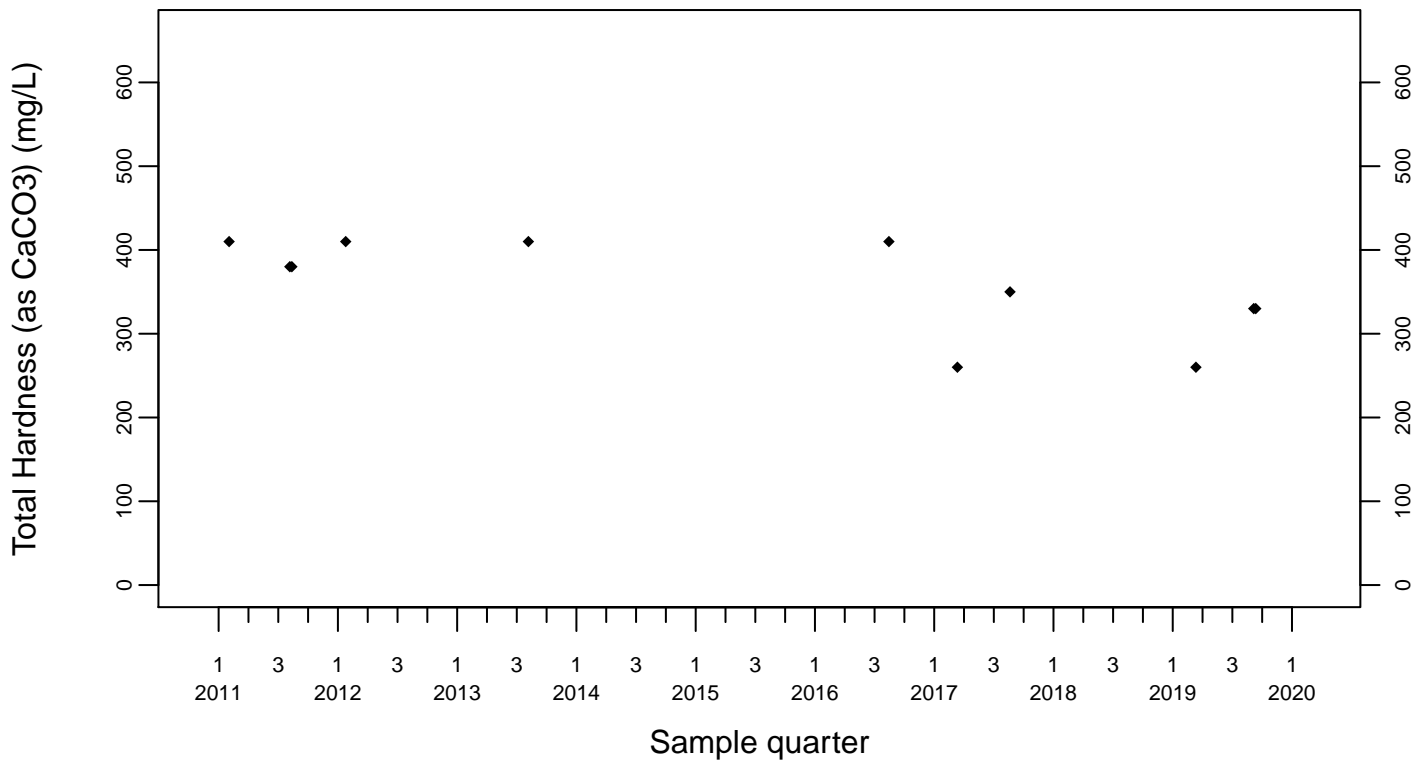
Sewage Ponds Ground Water
Total Hardness (as CaCO₃) (mg/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



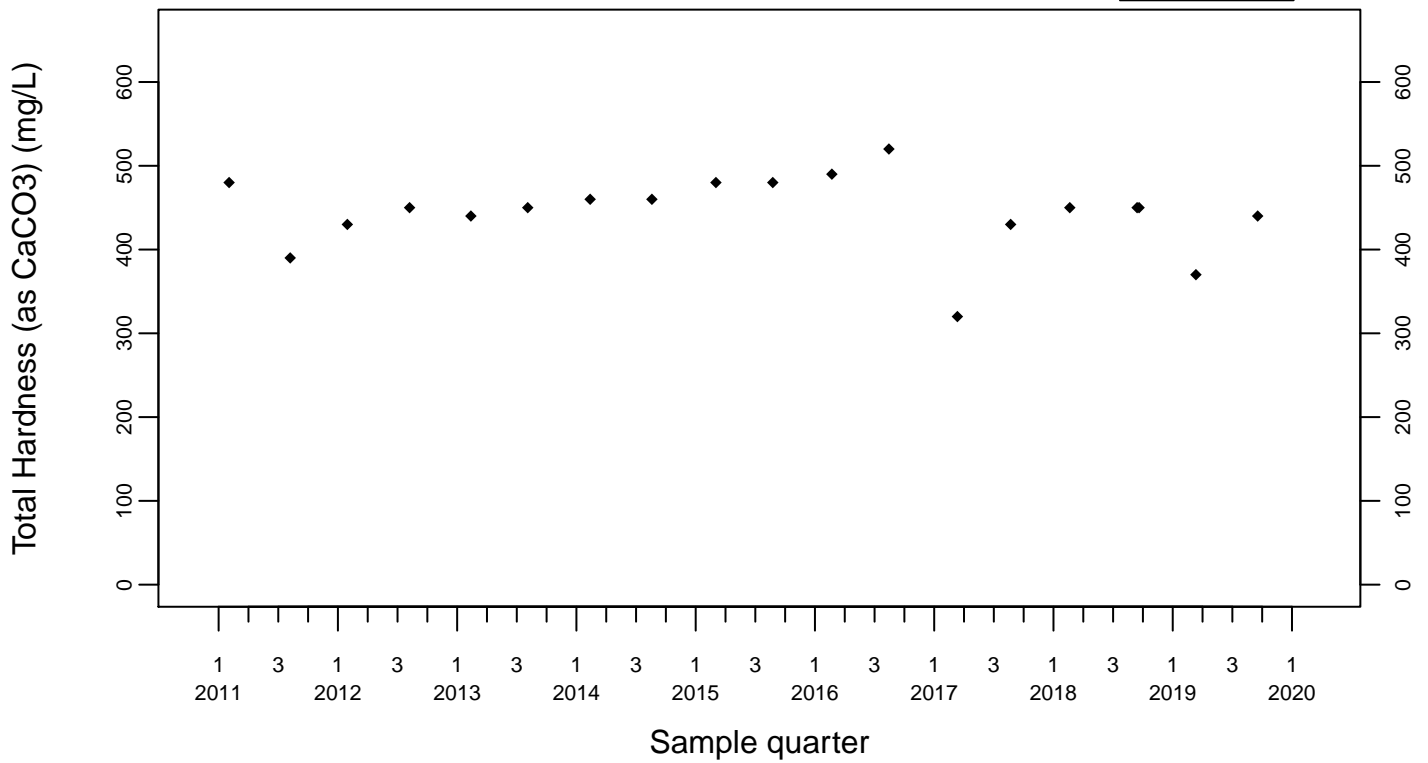
Upgradient Monitor Well W-7PS



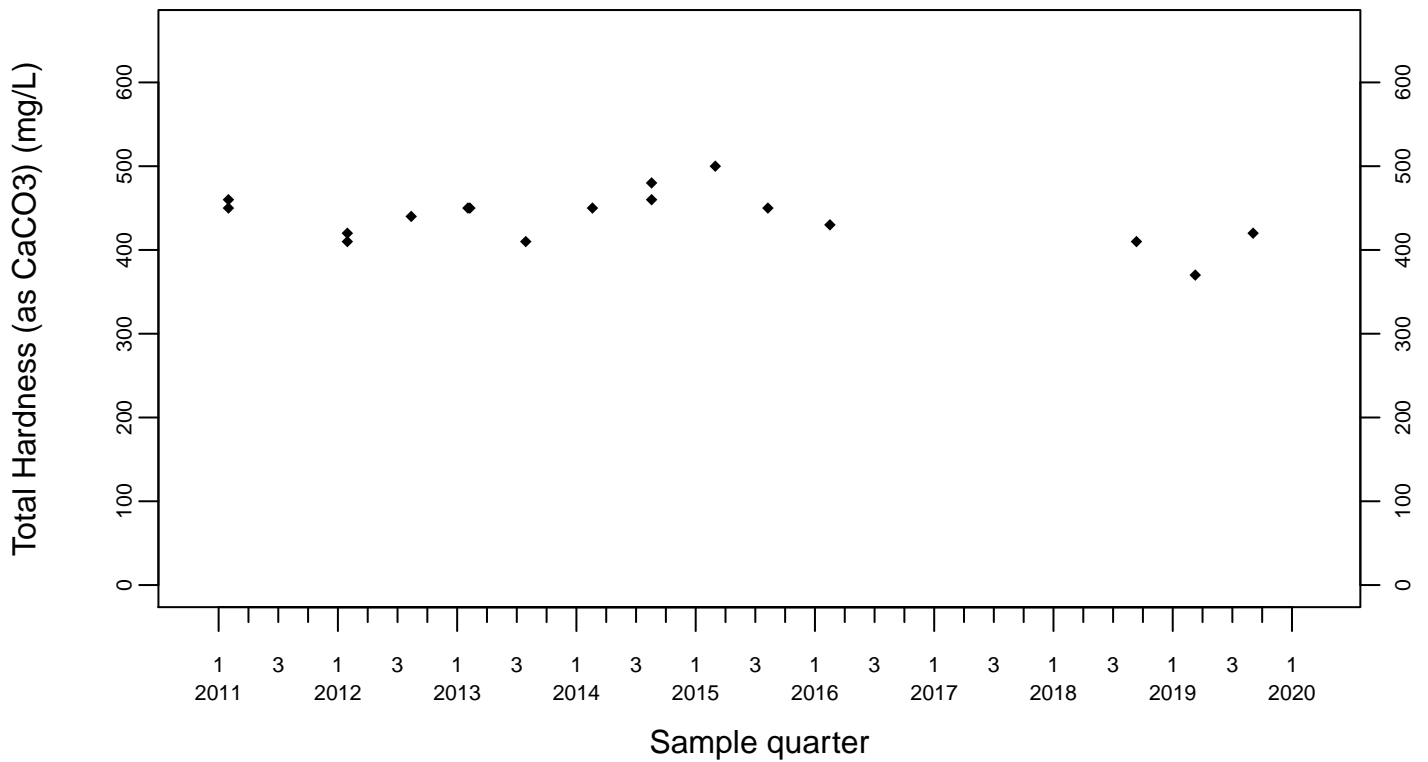
Sewage Ponds Ground Water
Total Hardness (as CaCO₃) (mg/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



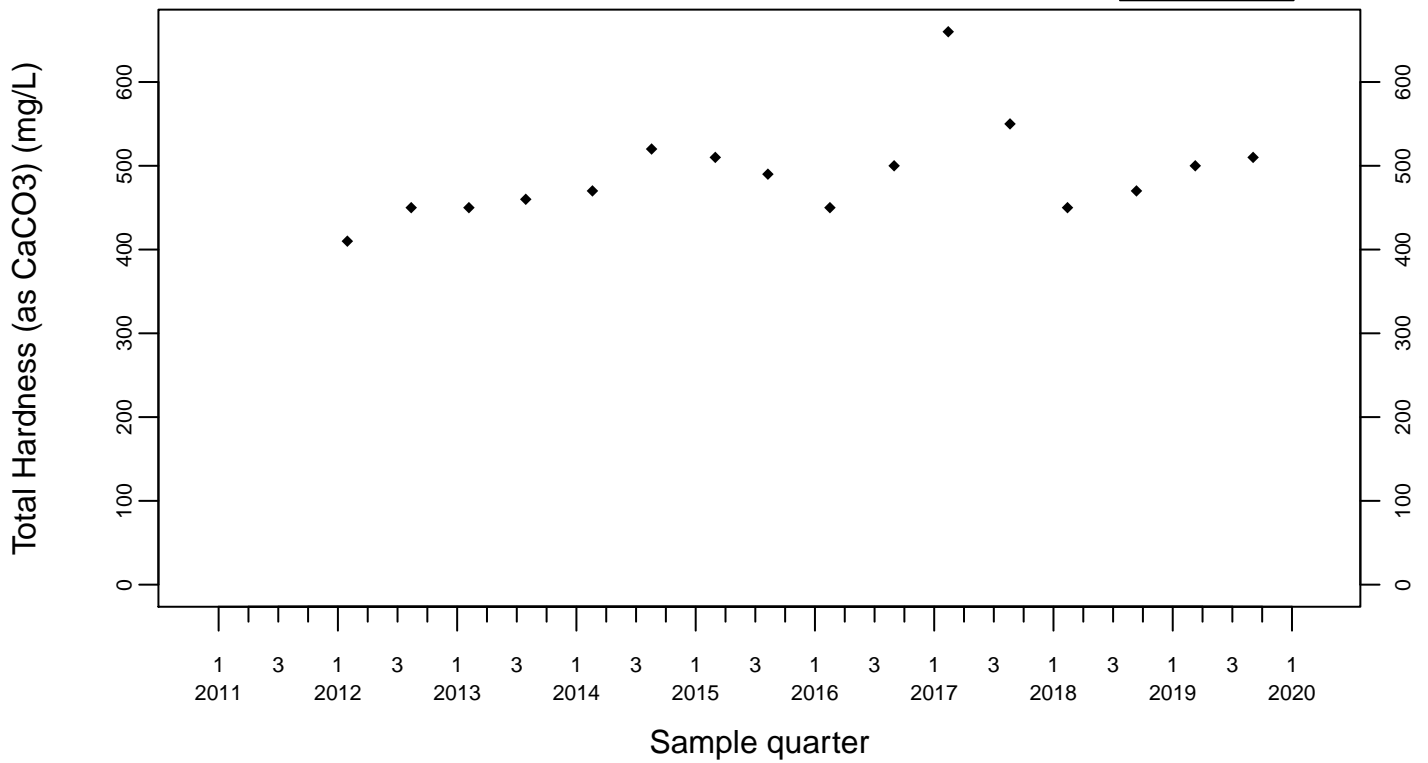
Downgradient Monitor Well W-25N-23



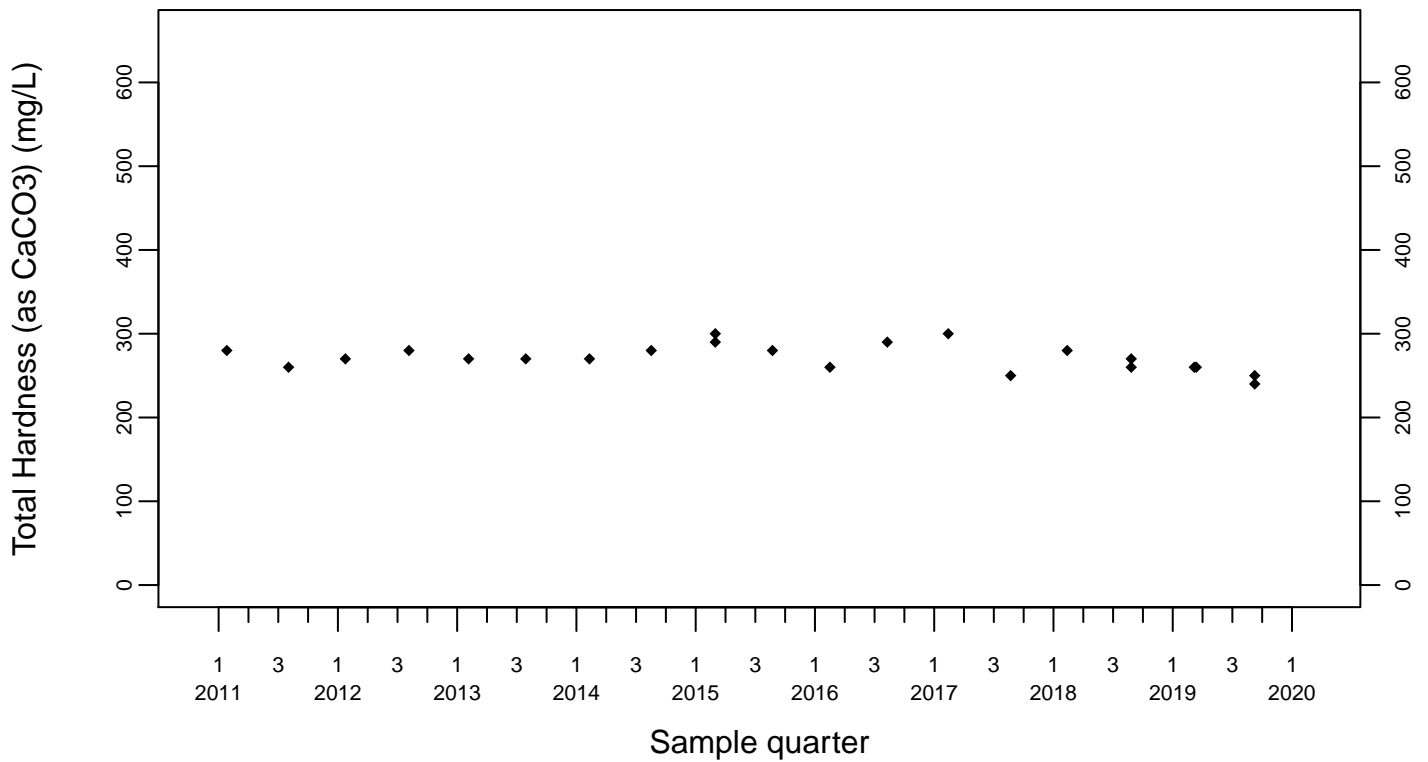
Sewage Ponds Ground Water
Total Hardness (as CaCO₃) (mg/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



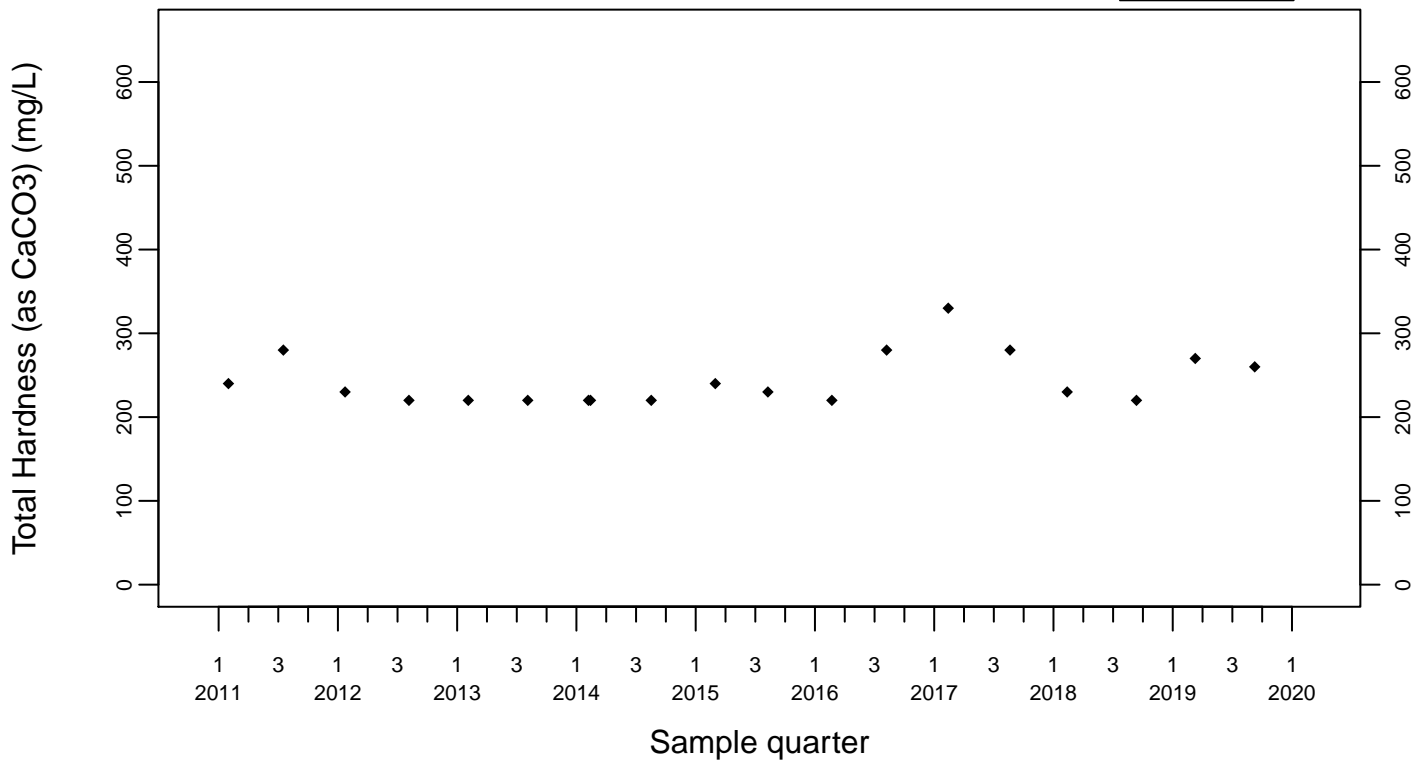
Downgradient Monitor Well W-26R-01



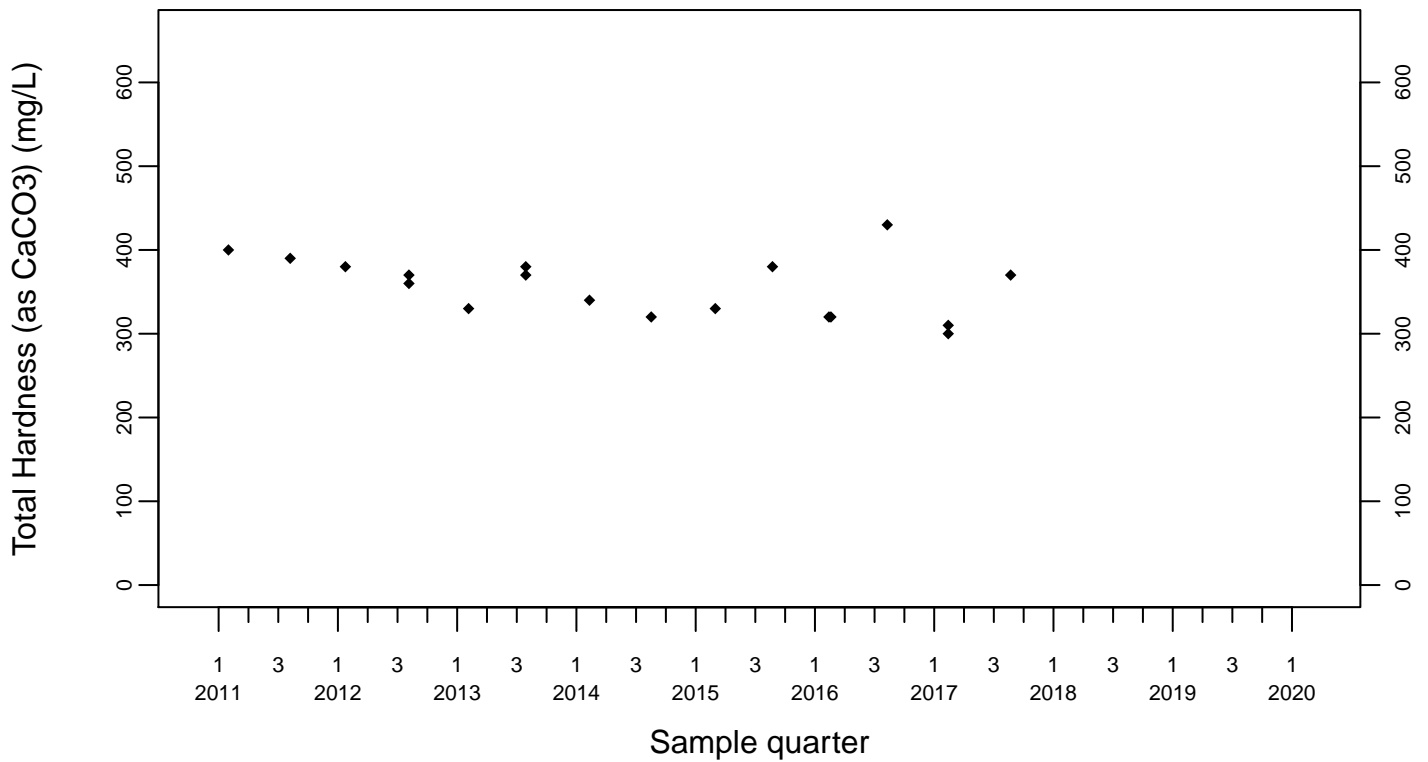
Sewage Ponds Ground Water
Total Hardness (as CaCO₃) (mg/L)

Downgradient Monitor Well W-26R-05

◆ Above RL
▽ Below RL



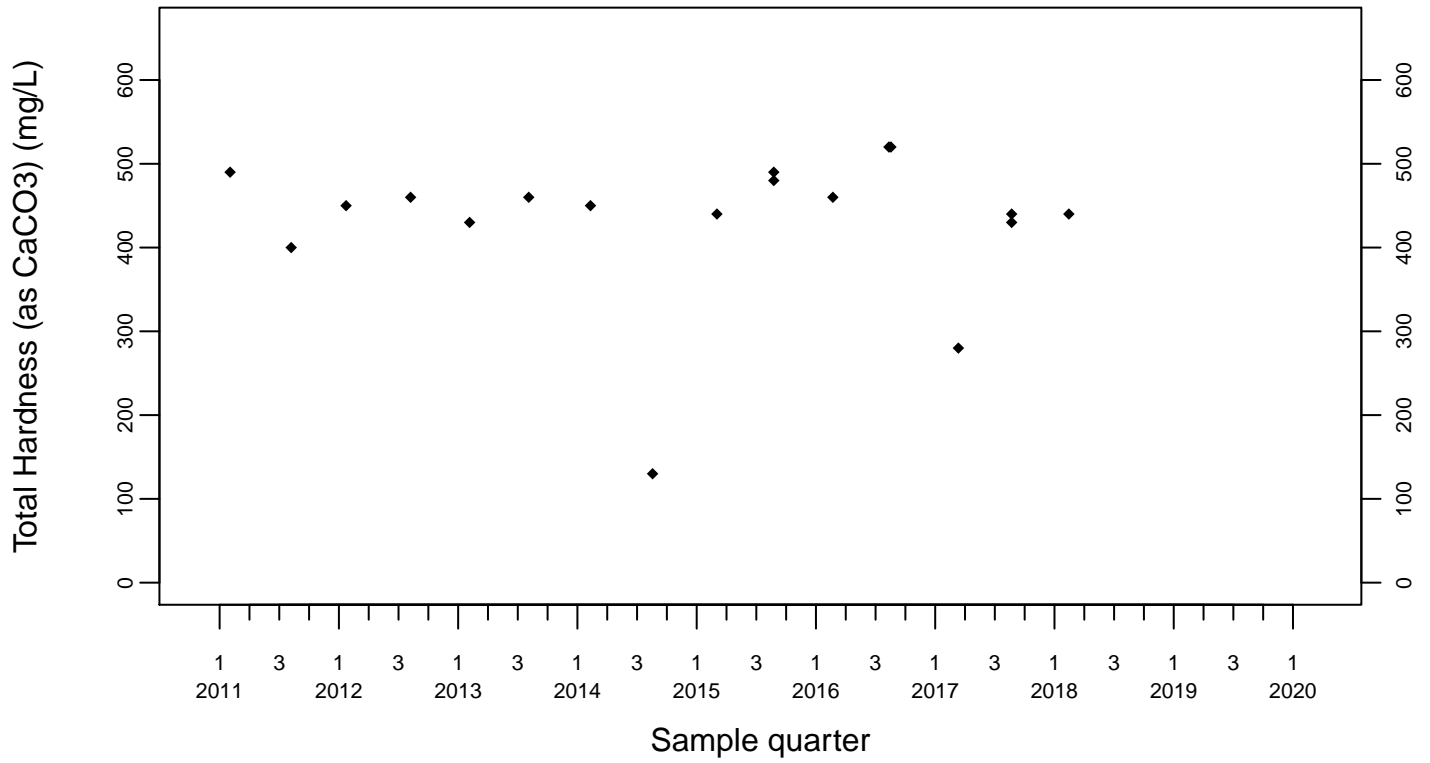
Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Total Hardness (as CaCO₃) (mg/L)

Downgradient Monitor Well W-7DS

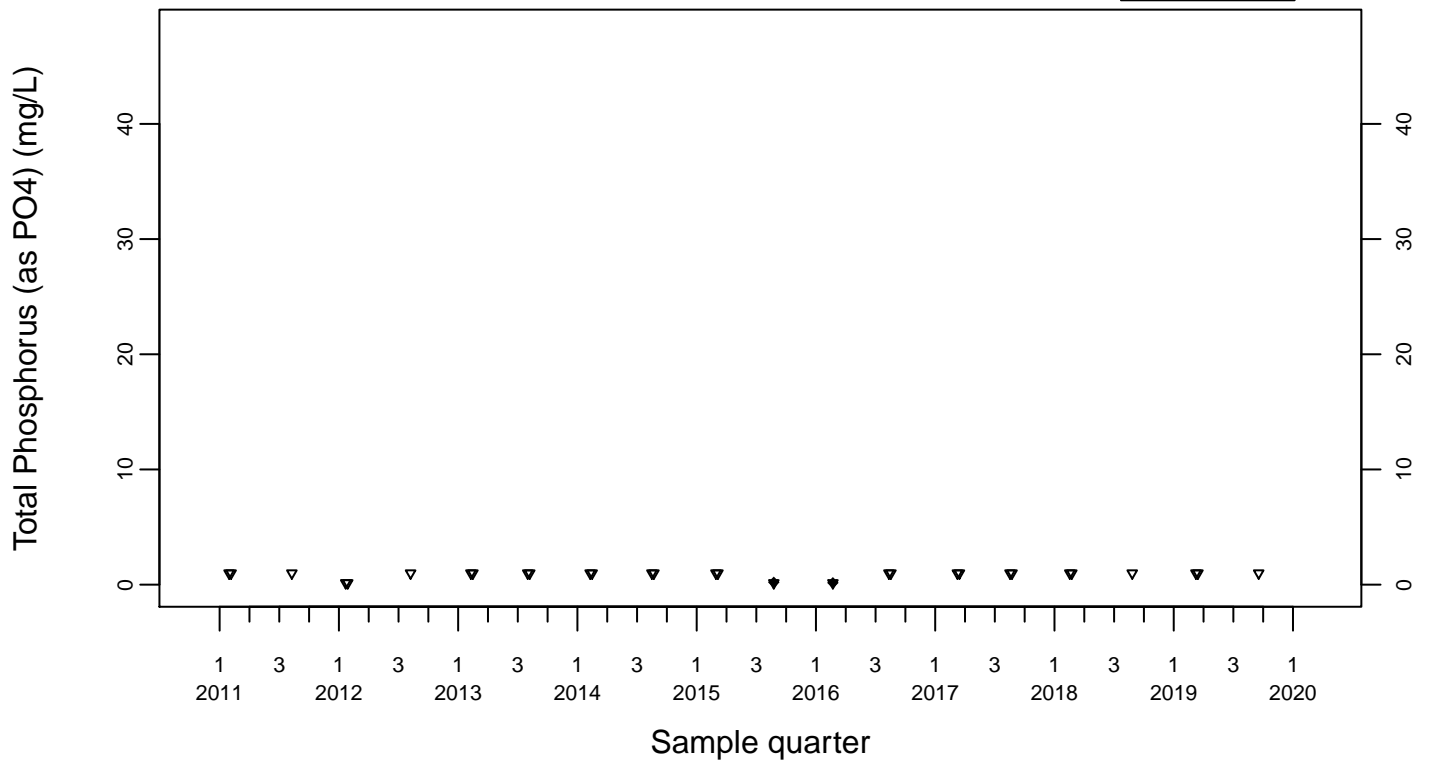
◆ Above RL
▽ Below RL



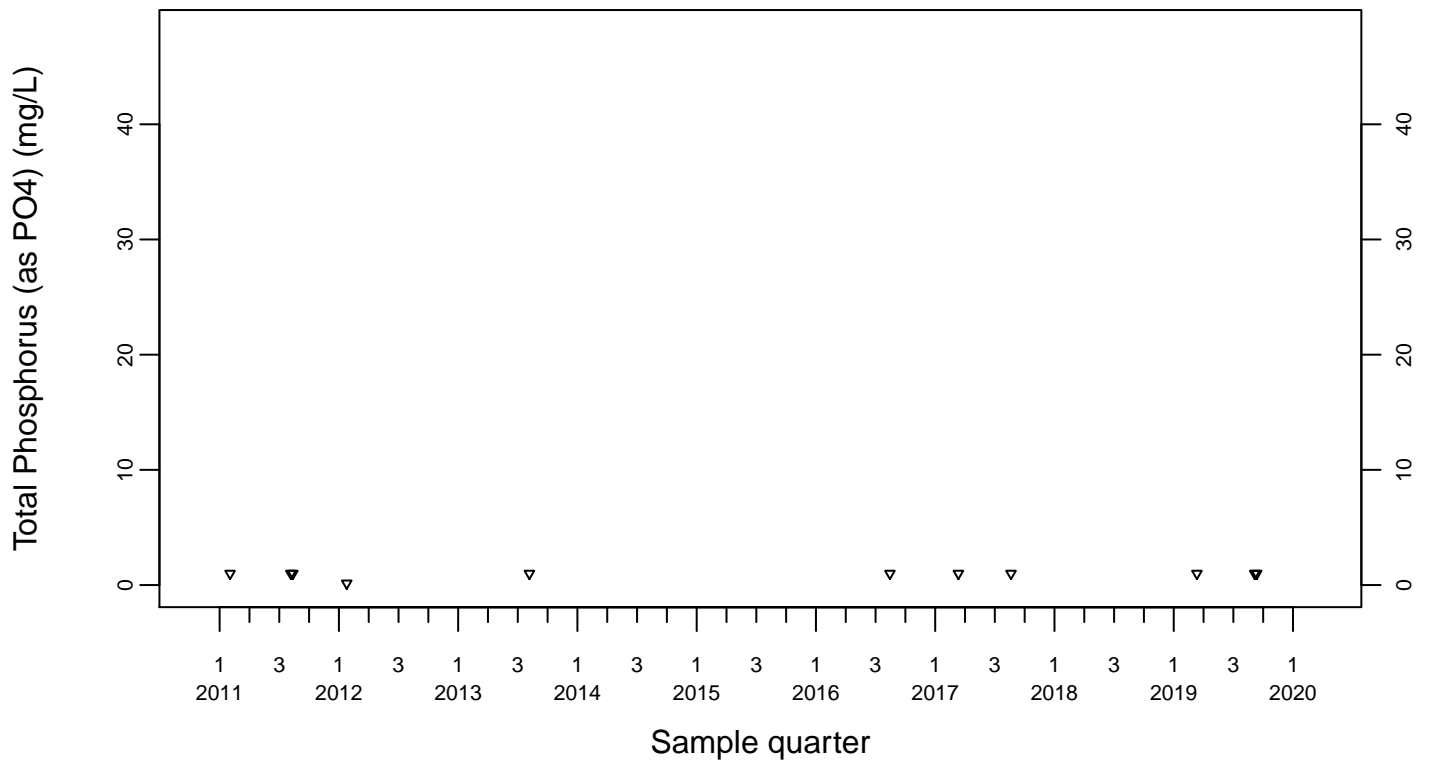
Sewage Ponds Ground Water
Total Phosphorus (as PO₄) (mg/L)

Upgradient Monitor Well W-7ES

◆ Above RL
▽ Below RL



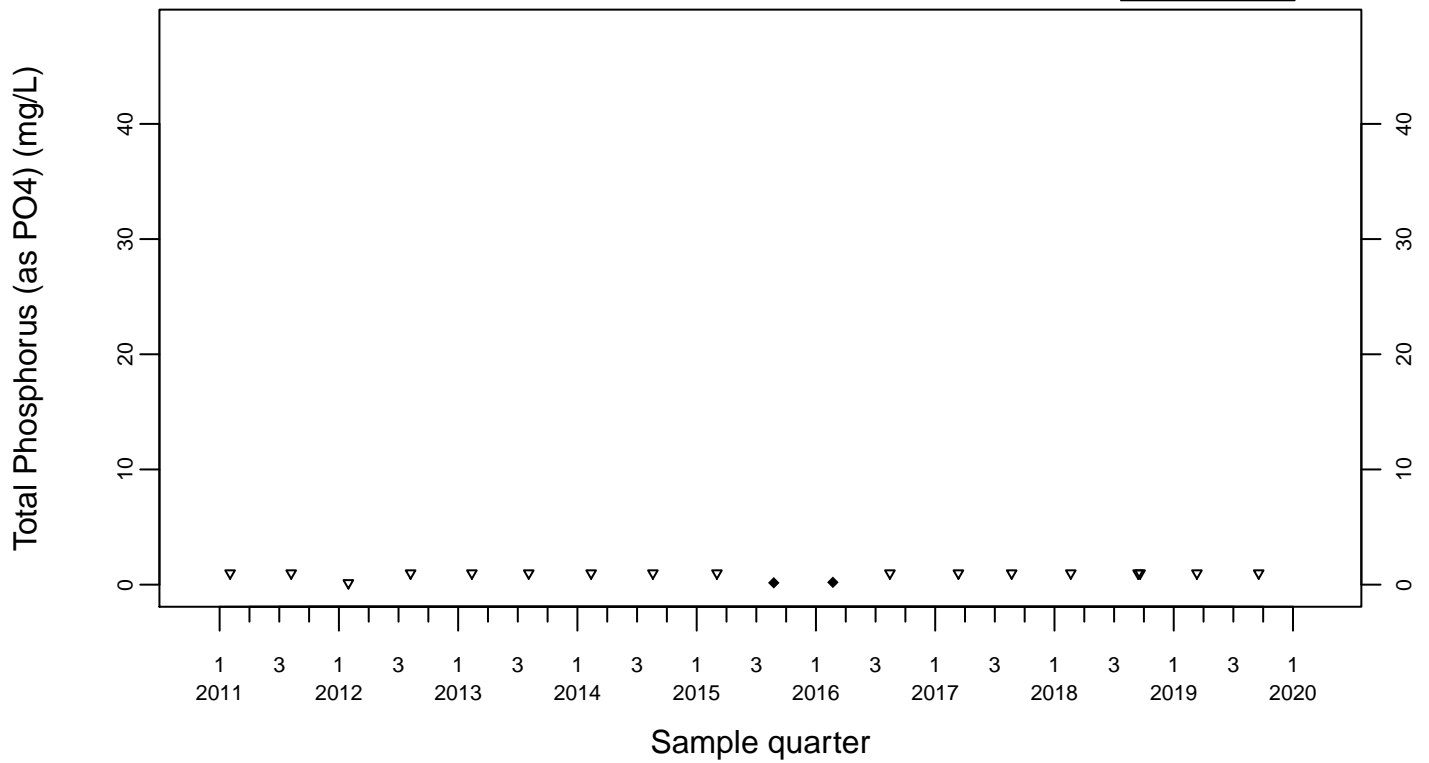
Upgradient Monitor Well W-7PS



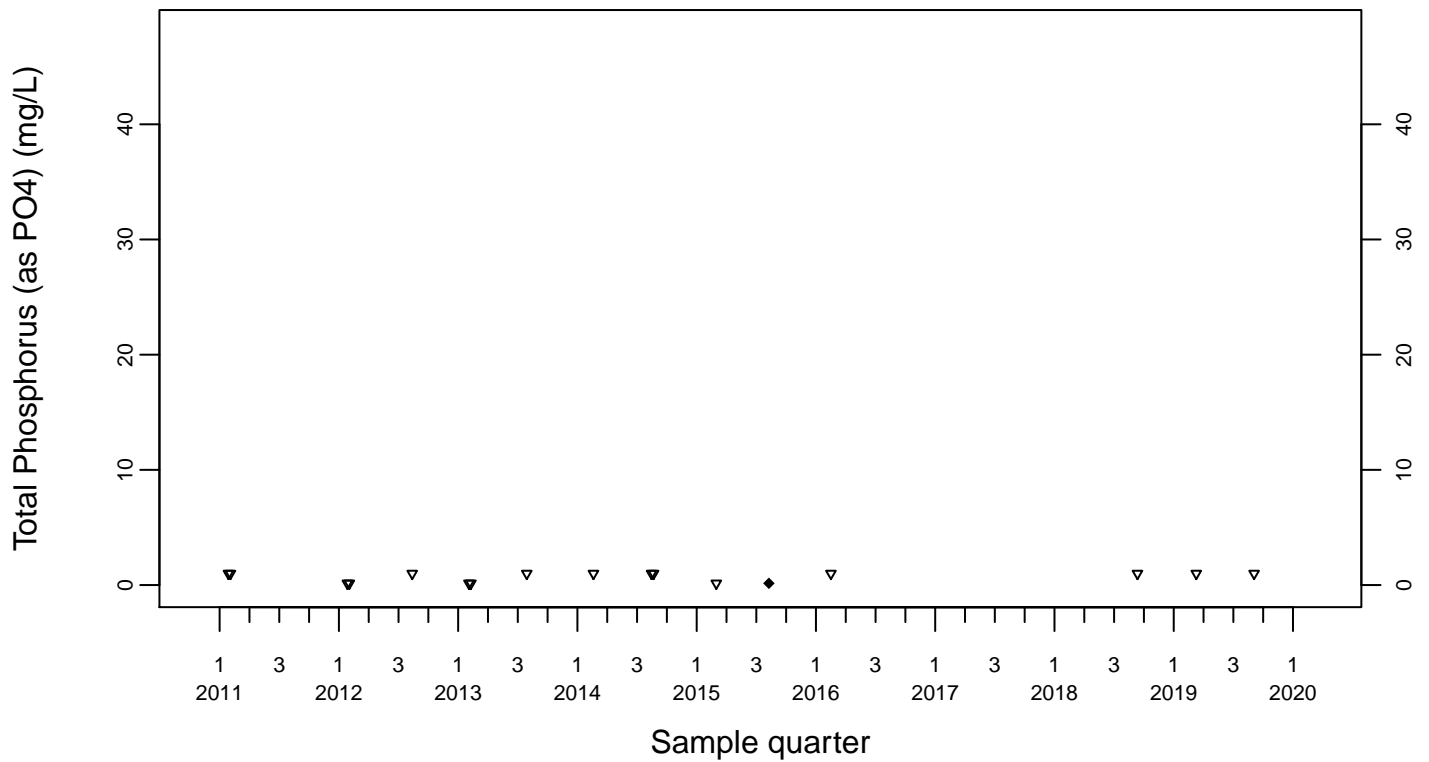
Sewage Ponds Ground Water
Total Phosphorus (as PO₄) (mg/L)

Crossgradient Monitor Well W-35A-04

◆ Above RL
▽ Below RL



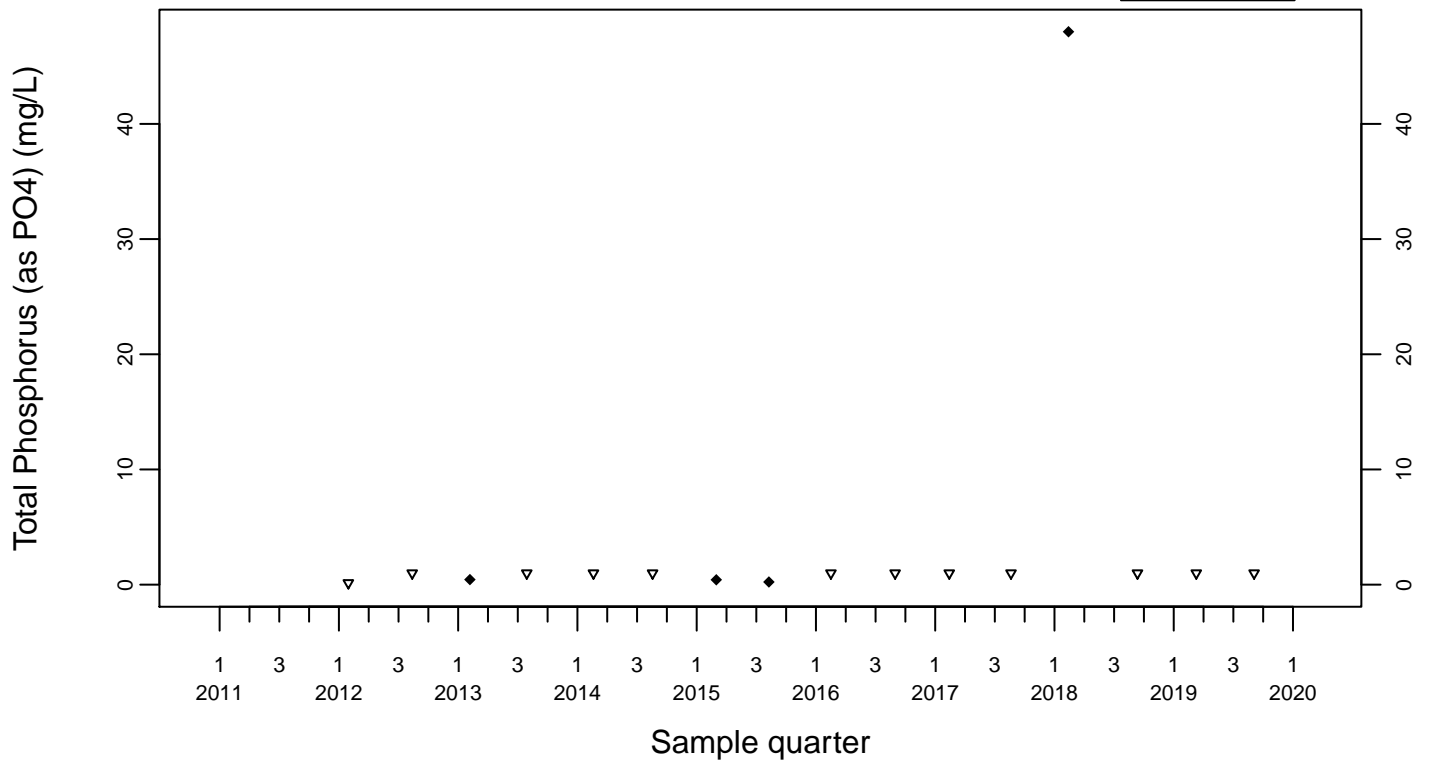
Downgradient Monitor Well W-25N-23



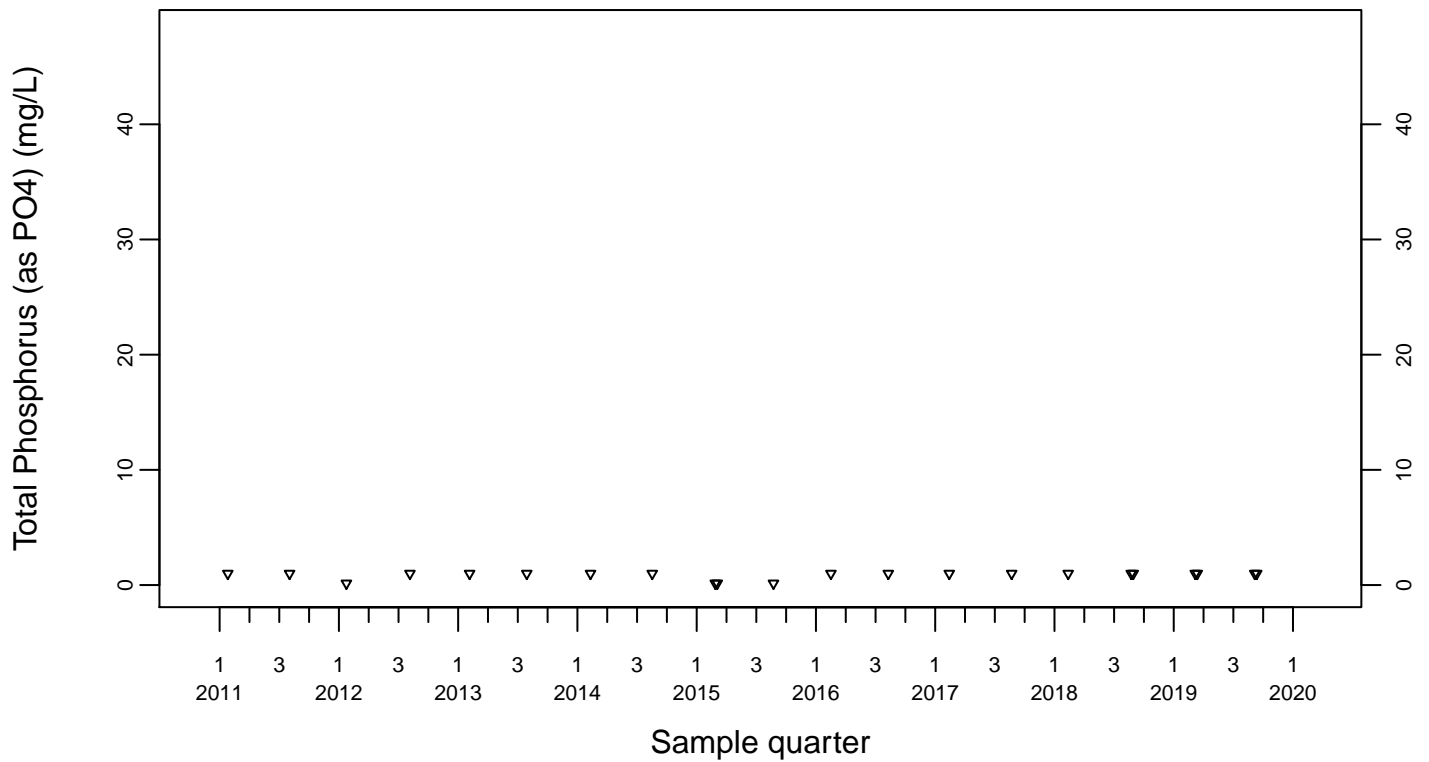
Sewage Ponds Ground Water
Total Phosphorus (as PO₄) (mg/L)

Downgradient Monitor Well W-25N-22

◆ Above RL
▽ Below RL



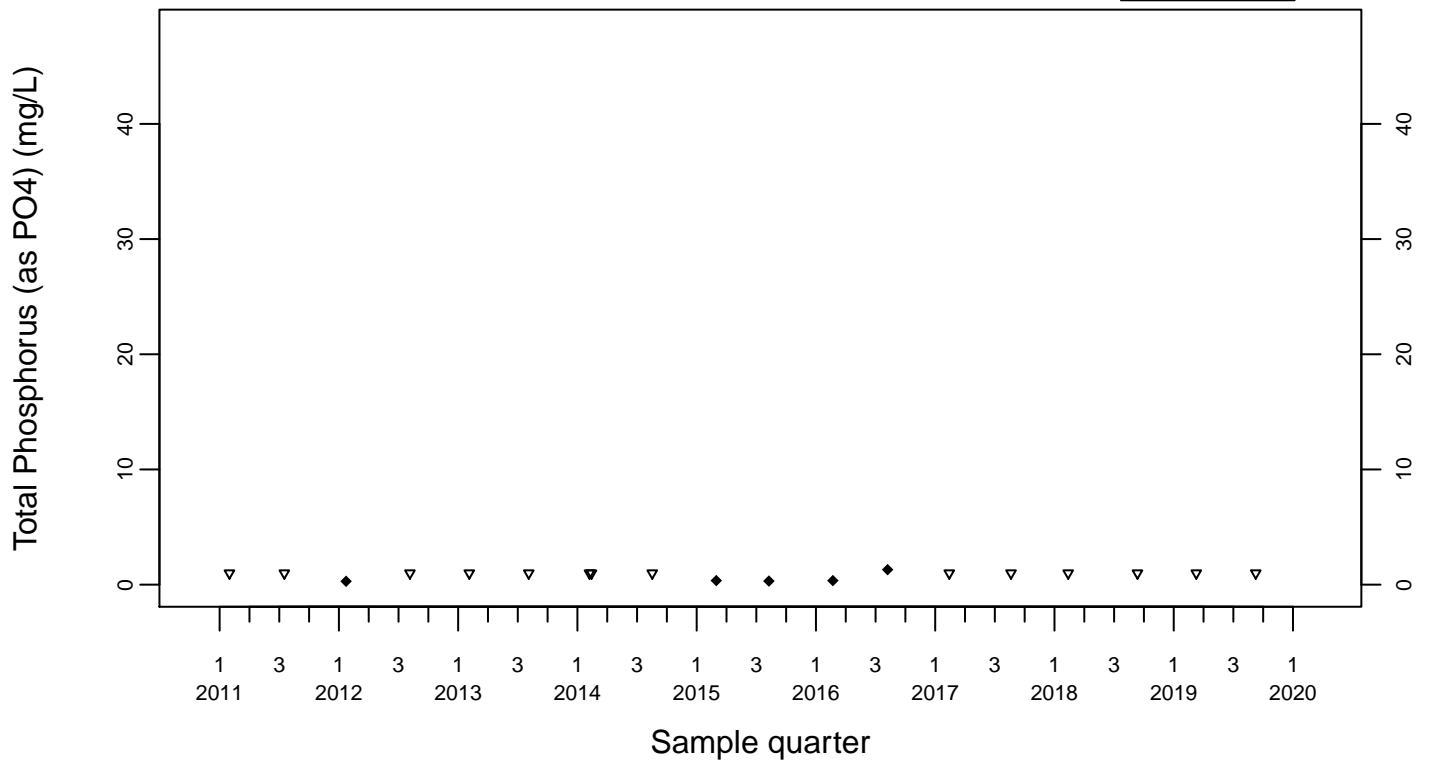
Downgradient Monitor Well W-26R-01



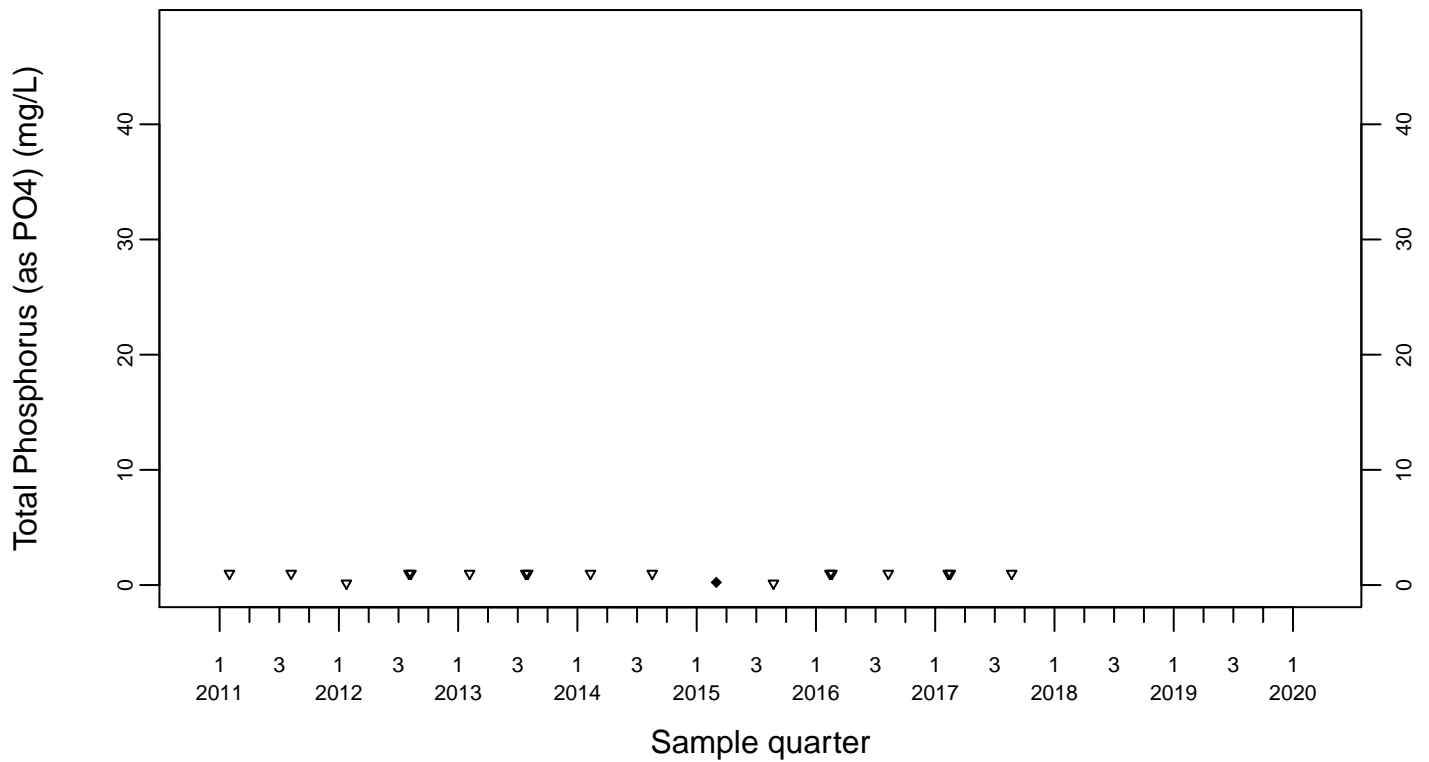
Sewage Ponds Ground Water
Total Phosphorus (as PO₄) (mg/L)

Downgradient Monitor Well W-26R-05

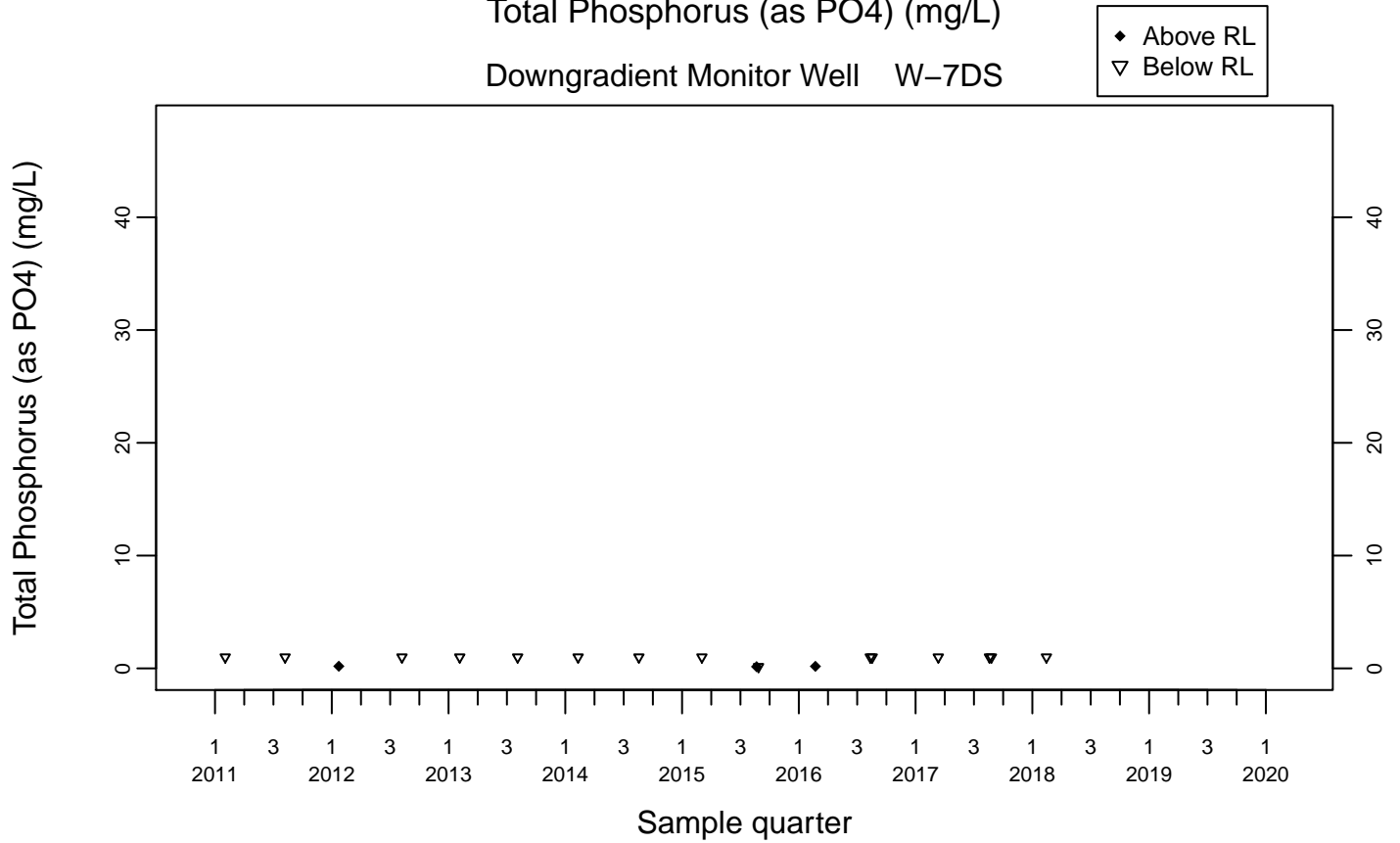
◆ Above RL
▽ Below RL



Downgradient Monitor Well W-26R-11



Sewage Ponds Ground Water
Total Phosphorus (as PO₄) (mg/L)
Downgradient Monitor Well W-7DS



Appendix B

Cooling Tower Network

Cooling Tower Blowdown Effluent Monitoring Network
with Discharges to Percolation Pits
(Bldgs. 801, 817A, 826, 827A, and 851)
and Cooling Tower Percolation Pit Inspection Forms

LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
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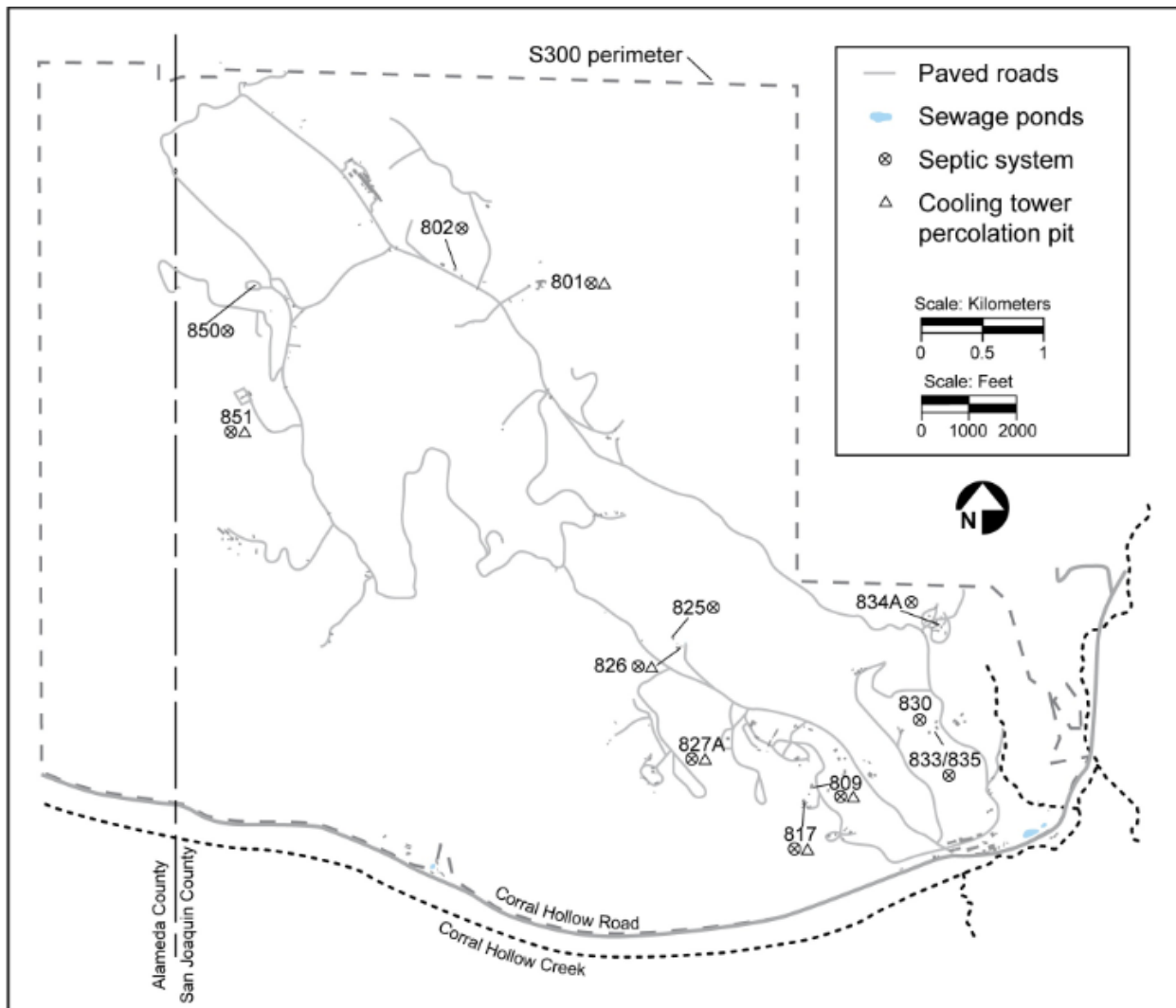


Figure B-1. Location of Site 300 cooling towers.

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table B-1. Site 300 cooling tower wastewater monitoring network 2019 sodium and anions data summary.

| Building/Location | Date | Sodium (mg/L) | Chloride (mg/L) | Nitrate (as NO₃) (mg/L) | Sulfate (mg/L) | Fluoride (mg/L) | Bromide (mg/L) |
|--------------------------|-------------|--------------------------|----------------------------|---|---------------------------|----------------------------|---------------------------|
| 3-801ACT01-TW | May 22 | 2200 | 940 | 5.3 | 1700 | 2.5 | 46 |
| | Oct 22 | 1600 | 580 | 3.0 | 1000 | 1.1 | 33 |
| 3-817ACT01-TW | May 21 | 780 | 320 | <2.5 | 610 | 0.56 | 6.0 |
| | Oct 22 | 570 | 210 | <1 | 380 | 0.31 | 17 |
| 3-826FCT01-TW | May 21 | 810 | 300 | <2.5 | 580 | 0.68 | 2.5 |
| | Oct 22 | 380 | 130 | <0.5 | 250 | 0.25 | 4.6 |
| 3-827ACT01-TW | May 21 | 720 | 290 | <2.5 | 520 | 0.45 | 18 |
| | Oct 22 | 1200 | 460 | 1.5 | 870 | 0.86 | 12 |
| 3-827ACT02-TW | May 21 | 610 | 240 | 1.0 | 450 | 0.32 | 30 |
| | Oct 22 | 1300 | 480 | 1.5 | 930 | 0.94 | 9.1 |
| 3-851BFCT03-TW | May 22 | 1300 | 540 | <2.5 | 930 | 1.3 | 21 |
| | Oct 22 | 1500 | 630 | <2.5 | 1100 | 1.1 | 24 |

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Second Semester/Annual Report 2019*

Table B–2. Site 300 cooling tower wastewater monitoring network 2019 metals analysis data summary.

| Analyte (µg/L) | Quarter | 3-801ACT01-TW | 3-817ACT01-TW | 3-826FCT01-TW | 3-827ACT01-TW | 3-827ACT02-TW | 3-851BFCT03-TW |
|---------------------|---------|---------------|---------------|---------------|---------------|---------------|----------------|
| Aluminum | Q2 | <250 | <50 | <50 | <50 | <50 | <250 |
| | Q4 | <250 | <50 | <50 | <250 | <250 | <250 |
| Arsenic | Q2 | 13 | 3.9 | 2.6 | 13 | 20 | 10 |
| | Q4 | 29 | 18 | <2 | 9.1 | 5.7 | 10 |
| Barium | Q2 | <120 | <25 | 27 | 34 | 36 | <120 |
| | Q4 | 57 | 34 | <25 | 36 | 39 | 48 |
| Boron | Q2 | 8600 | 3200 | 3700 | 2900 | 2300 | 5000 |
| | Q4 | 5500 | 2200 | 1500 | 4600 | 4800 | 5500 |
| Cadmium | Q2 | <250 | <50 | <50 | <50 | <50 | <250 |
| | Q4 | <50 | <50 | <50 | <50 | <50 | <50 |
| Calcium | Q2 | 80000 | 25000 | 22000 | 28000 | 23000 | 57000 |
| | Q4 | 56000 | 22000 | 14000 | 46000 | 49000 | 55000 |
| Chromium | Q2 | <5 | <1 | <1 | <1 | <1 | <5 |
| | Q4 | <1 | <1 | <1 | <1 | <1 | 1.4 |
| Hexavalent Chromium | Q2 | 1.8 | 1.2 | <1 | <1 | <1 | 3.0 |
| | Q4 | 2.0 | <1 | <1 | 1.7 | 1.9 | 4.4 |
| Copper | Q2 | 44 | 17 | 86 | 6.6 | 20 | 20 |
| | Q4 | 16 | 28 | 5.5 | 6.7 | 7.3 | 16 |
| Iron | Q2 | 860 | 290 | 570 | 270 | 170 | 880 |
| | Q4 | 840 | 350 | 290 | 610 | 650 | 1100 |
| Lead | Q2 | <25 | <5 | <5 | <5 | <5 | <25 |
| | Q4 | <5 | <5 | <5 | <5 | <5 | <5 |
| Magnesium | Q2 | <2500 | <500 | 750 | <500 | <500 | <2500 |
| | Q4 | <2500 | <500 | <500 | <2500 | <2500 | <2500 |
| Manganese | Q2 | <150 | <30 | <30 | <30 | <30 | <150 |
| | Q4 | <150 | <30 | <30 | <150 | <150 | <150 |
| Mercury | Q2 | 0.24 | <0.2 | <0.2 | <0.2 | <0.2 | 0.21 |
| | Q4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Molybdenum | Q2 | 150 | 59 | 64 | 48 | 39 | <120 |
| | Q4 | <120 | 44 | 29 | <120 | <120 | <120 |
| Nickel | Q2 | <10 | <2 | <2 | <2 | <2 | <10 |
| | Q4 | <2 | <2 | <2 | <2 | <2 | <2 |
| Potassium | Q2 | 86000 | 35000 | 42000 | 42000 | 37000 | 50000 |
| | Q4 | 62000 | 26000 | 15000 | 50000 | 49000 | 56000 |
| Selenium | Q2 | 40 | 11 | 5.1 | 45 | 67 | 31 |
| | Q4 | 100 | 58 | 7.0 | 31 | 18 | 34 |
| Silver | Q2 | <50 | <10 | <10 | <10 | <10 | <50 |
| | Q4 | <10 | <10 | <10 | <10 | <10 | <10 |
| Vanadium | Q2 | <100 | <20 | <20 | <20 | <20 | <100 |
| | Q4 | <20 | <20 | <20 | <20 | <20 | <20 |
| Zinc | Q2 | 120 | 46 | 120 | 98 | 210 | <100 |
| | Q4 | 67 | 140 | <20 | 20 | 35 | 150 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table B-3. Site 300 cooling tower wastewater monitoring network 2019 physical characteristics data summary.

| Well/ Location | Date | pH | Specific Conductance µmhos/cm | Total Alkalinity (as CaCO₃) mg/L | Total dissolved solids mg/L | Total Hardness (as CaCO₃) mg/L | Total Phosphorus (as PO₄) mg/L |
|-----------------------|-------------|-----------|--|--|--|--|--|
| 3-801ACT01-TW | May 22 | 9.5 | 9130 | 2000 | 6900 | 200 | 14 |
| | Oct 22 | 9.4 | 6210 | 1300 | 4300 | 140 | 18 |
| 3-817ACT01-TW | May 21 | 9.1 | 3480 | 780 | 2600 | 64 | 4.4 |
| | Oct 22 | 9.0 | 2430 | 490 | 1800 | 56 | 16 |
| 3-826FCT01-TW | May 21 | 9.2 | 3550 | 930 | 2700 | 59 | 3.9 |
| | Oct 22 | 8.9 | 1650 | 340 | 1100 | 35 | 2.7 |
| 3-827ACT01-TW | May 21 | 9.3 | 3160 | 720 | 2500 | 71 | 26 |
| | Oct 22 | 9.5 | 5080 | 1100 | 3600 | 120 | 12 |
| 3-827ACT02-TW | May 21 | 9.0 | 2700 | 580 | 2100 | 57 | 29 |
| | Oct 22 | 9.4 | 5370 | 1200 | 3700 | 120 | 7.1 |
| 3-851BFCT03-TW | May 22 | 9.3 | 5500 | 1300 | 4200 | 140 | 12 |
| | Oct 22 | 9.4 | 6480 | 1400 | 4400 | 140 | 9.5 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
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Table B-4. Site 300 cooling tower wastewater monitoring network 2019 QA data summary.

| Constituent | Units | 3-801ACT01-TW | 3-801ACT01-TW | 3-817ACT01-TW | 3-817ACT01-TW |
|--|----------|---------------|---------------|---------------|---------------|
| | | May 22 | May 22 | Oct 22 | Oct 22 |
| | | Routine | Duplicate | Routine | Duplicate |
| pH | Units | 9.5 | 9.5 | 9.0 | 9.0 |
| Specific Conductance | µmhos/cm | 9130 | 9120 | 2430 | 2430 |
| Aluminum | µg/L | <250 | <250 | <50 | <50 |
| Arsenic | µg/L | 13 | <20 | 18 | 15 |
| Barium | µg/L | <120 | <120 | 34 | 32 |
| Boron | µg/L | 8600 | 8800 | 2200 | 2200 |
| Cadmium | µg/L | <250 | <250 | <50 | <50 |
| Calcium | µg/L | 80000 | 81000 | 22000 | 22000 |
| Chromium | µg/L | <5 | <5 | <1 | <1 |
| Hexavalent Chromium | µg/L | 1.8 | 1.9 | <1 | <1 |
| Copper | µg/L | 44 | 46 | 28 | 29 |
| Iron | µg/L | 860 | 1100 | 350 | 340 |
| Lead | µg/L | <25 | <25 | <5 | <5 |
| Magnesium | µg/L | <2500 | <2500 | <500 | <500 |
| Manganese | µg/L | <150 | <150 | <30 | <30 |
| Mercury | µg/L | 0.24 | 0.23 | <0.2 | <0.2 |
| Molybdenum | µg/L | 150 | 180 | 44 | 44 |
| Nickel | µg/L | <10 | <10 | <2 | <2 |
| Potassium | µg/L | 86000 | 89000 | 26000 | 26000 |
| Selenium | µg/L | 40 | 39 | 58 | 53 |
| Silver | µg/L | <50 | <50 | <10 | <10 |
| Vanadium | µg/L | <100 | <100 | <20 | <20 |
| Zinc | µg/L | 120 | 130 | 140 | 160 |
| Sodium | mg/L | 2200 | 2200 | 570 | 580 |
| Chloride | mg/L | 940 | 940 | 210 | 210 |
| Nitrate (as NO ₃) | mg/L | 5.3 | 5.4 | <1 | <1 |
| Sulfate | mg/L | 1700 | 1700 | 380 | 390 |
| Fluoride | mg/L | 2.5 | 2.4 | 0.31 | 0.35 |
| Bromide | mg/L | 46 | 46 | 17 | 18 |
| Total Alkalinity (as CaCO ₃) | mg/L | 2000 | 2000 | 490 | 490 |
| Total dissolved solids (TDS) | mg/L | 6900 | 7000 | 1800 | 1700 |
| Total Hardness (as CaCO ₃) | mg/L | 200 | 200 | 56 | 56 |
| Total Phosphorus (as PO ₄) | mg/L | 14 | 15 | 16 | 16 |

FIELD TRACKING FORM
Semi-Annual SITE 300 Cooling Towers

Special Instructions:

Should be sampled in early April and October.
See back of form for additional access information

| LAB | CoC# | Ship It # |
|---------|-------|-----------|
| BC Labs | 81186 | 2504410 |
| | | |

pH meter calibrated on: 10/22/19

Specific Conductance meter calibrated on: 10/22/19

Sample Date: 10/22/19

| Location Identifier | Location DUP taken - year/quarter | Sample Time | Initials | Field Measurements | | BC Labs | | | | Comments |
|----------------------------|--------------------------------------|-------------|----------|--------------------|----------------------|------------------------|------------------------|--------------------------|-------------------------|--------------|
| | | | | pH | Specific Conductance | S3METALS 500mL Poly | S3ANIONS 500mL Poly | S3WETCHEM 1000mL Poly | E300.0/BR 250ml Poly | |
| 3-801ACT01-TW | 2019/2nd | 1020 | KBS | 9.63 | 6.28ms | ✓ | ✓ | ✓ | ✓ | 825 off line |
| 3-817ACT01-TW | 2019/4th | 0900 | KBS | 8.93 | 2.59ms | ✓ | ✓ | ✓ | ✓ | |
| 3-825ACT01-TW | 2015/2nd | | | | | | | | | |
| 3-826FCT01-TW | 2017/4th | 0915 | KBS | 8.98 | 1430ms | ✓ | ✓ | ✓ | ✓ | |
| 3-827ACT01-TW | 2014/4TH | 0930 | KBS | 9.61 | 5.12ms | ✓ | ✓ | ✓ | ✓ | |
| 3-827ACT02-TW | 2018/4th | 0940 | KBS | 9.54 | 5.08ms | ✓ | ✓ | ✓ | ✓ | |
| 3-851BFCT03-TW | 2018/2nd | 1000 | KBS | 9.49 | 6.31ms | ✓ | ✓ | ✓ | ✓ | |
| Duplicate of 3-817ACT01-TW | | | | | | | | | | |
| 3-B9900-01-TW | | 0900 | KBS | | | ✓ | ✓ | ✓ | ✓ | |

☒ Copy to Analyst, Ada Chan.

Rev. 9-27-17

Chain of Custody

EFA Data Management Team
Lawrence Livermore National Laboratory
P.O. Box 808 L-627
Livermore, CA 94551


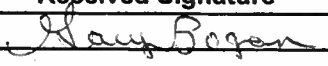
Work Authorized By: EFA
TRR Approver: DELLA BURRUSS
Project Info:

Access/COC #: 81186
Document Control #: 81186
Requester/LLNL Analyst: A. Chan
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 44497
PCI Task #: ES&H Bills and Taxes
Email: efa-dmt@llnl.gov
DMT Additional Copies:

Analytical Lab: BCLABS-BAK
TAT: 20d
Analytical Lab Log #:
Project/Network: COOLTOWER
Shipt Release #: 250440
Add'l Email:

Additional Instructions:

| Sample ID | Sampled Date/Time | Matrix | Cont. Type | Cont. Count | Study Area | Req. Analysis | Analysis Detail | Lab Instructions |
|------------------|-------------------|--------|------------|-------------|------------|---------------|-----------------|------------------|
| 3-801ACT01-01-TW | 10/22/2019 10:20 | TW | P | 1 | COOLTOWER | E300.0 | BR | |
| 3-801ACT01-01-TW | 10/22/2019 10:20 | TW | P | 1 | COOLTOWER | S3ANIONS | ALL | |
| 3-801ACT01-01-TW | 10/22/2019 10:20 | TW | P | 0 | COOLTOWER | S3METALS | ALL | |
| 3-801ACT01-01-TW | 10/22/2019 10:20 | TW | P | 1 | COOLTOWER | S3METALS | TOTAL | |
| 3-801ACT01-01-TW | 10/22/2019 10:20 | TW | P | 1 | COOLTOWER | S3WETCHEM | ALL | |
| 3-817ACT01-01-TW | 10/22/2019 09:00 | TW | P | 1 | COOLTOWER | E300.0 | BR | |
| 3-817ACT01-01-TW | 10/22/2019 09:00 | TW | P | 1 | COOLTOWER | S3ANIONS | ALL | |
| 3-817ACT01-01-TW | 10/22/2019 09:00 | TW | P | 0 | COOLTOWER | S3METALS | ALL | |
| 3-817ACT01-01-TW | 10/22/2019 09:00 | TW | P | 1 | COOLTOWER | S3METALS | TOTAL | |
| 3-817ACT01-01-TW | 10/22/2019 09:00 | TW | P | 1 | COOLTOWER | S3WETCHEM | ALL | |
| 3-B9900-01-TW | 10/22/2019 09:00 | TW | P | 1 | COOLTOWER | E300.0 | BR | |
| 3-B9900-01-TW | 10/22/2019 09:00 | TW | P | 1 | COOLTOWER | S3ANIONS | ALL | |
| 3-B9900-01-TW | 10/22/2019 09:00 | TW | P | 0 | COOLTOWER | S3METALS | ALL | |
| 3-B9900-01-TW | 10/22/2019 09:00 | TW | P | 1 | COOLTOWER | S3METALS | TOTAL | |
| 3-B9900-01-TW | 10/22/2019 09:00 | TW | P | 1 | COOLTOWER | S3WETCHEM | ALL | |
| 3-826FCT01-01-TW | 10/22/2019 09:15 | TW | P | 1 | COOLTOWER | E300.0 | BR | |
| 3-826FCT01-01-TW | 10/22/2019 09:15 | TW | P | 1 | COOLTOWER | S3ANIONS | ALL | |
| 3-826FCT01-01-TW | 10/22/2019 09:15 | TW | P | 0 | COOLTOWER | S3METALS | ALL | |
| 3-826FCT01-01-TW | 10/22/2019 09:15 | TW | P | 1 | COOLTOWER | S3METALS | TOTAL | |
| 3-826FCT01-01-TW | 10/22/2019 09:15 | TW | P | 1 | COOLTOWER | S3WETCHEM | ALL | |
| 3-827ACT01-01-TW | 10/22/2019 09:30 | TW | P | 1 | COOLTOWER | E300.0 | BR | |
| 3-827ACT01-01-TW | 10/22/2019 09:30 | TW | P | 1 | COOLTOWER | S3ANIONS | ALL | |
| 3-827ACT01-01-TW | 10/22/2019 09:30 | TW | P | 0 | COOLTOWER | S3METALS | ALL | |
| 3-827ACT01-01-TW | 10/22/2019 09:30 | TW | P | 1 | COOLTOWER | S3METALS | TOTAL | |
| 3-827ACT01-01-TW | 10/22/2019 09:30 | TW | P | 1 | COOLTOWER | S3WETCHEM | ALL | |
| 3-827ACT02-01-TW | 10/22/2019 09:40 | TW | P | 1 | COOLTOWER | E300.0 | BR | |
| 3-827ACT02-01-TW | 10/22/2019 09:40 | TW | P | 1 | COOLTOWER | S3ANIONS | ALL | |

| Relinquished Signature | Company | Date | Time | Received Signature | Company | Date | Time |
|---|----------|------------|------|---|---------|----------|------|
| 1  | LLNL/EFA | 10/22/2019 | 1530 | 2  | BCLAB | 10/22/19 | 1630 |
| 3 | | | | 3 | | | |
| 4 | | | | 4 | | | |
| 5 | | | | 5 | | | |

Chain of Custody

EFA Data Management Team
Lawrence Livermore National Laboratory
P.O. Box 808 L-627
Livermore, CA 94551

Work Authorized By: EFA
TRR Approver: DELLA BURRUSS
Project Info:

Access/COC #: 81186
Document Control #: 81186
Requester/LLNL Analyst: A. Chan
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 44497
PCI Task #: ES&H Bills and Taxes
Email: efa-dmt@llnl.gov

DMT Additional Copies:

Analytical Lab : BCLABS-BAK

TAT:20d

Analytical Lab Log #:



Project/Network: COOLTOWER

Shiplt Release #: 250440

Add'l Email:

Additional Instructions:

[illegible]

| Relinquished Signature | | Company | Date | Time | Received Signature | | Company | Date | Time |
|------------------------|---|----------|------------|------|--------------------|---|---------|----------|------|
| 1 |  | LLNL/EFA | 10/22/2019 | 1530 | 2 |  | BCLAB | 10-22-19 | 1630 |
| 2 | | | | | 3 | | | | |
| 3 | | | | | 4 | | | | |
| 4 | | | | | 5 | | | | |

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7-26-19 Inspector Walker Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ | | |
| _____ | | |

Supervisor's Signature  Date 7-29-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7-26-19 Inspector Walker Building Number 817A

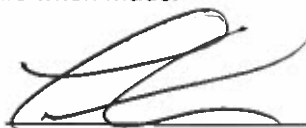
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|------------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/No <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ | | |
| _____ | | |

Supervisor's Signature



Date

7/29/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7-26-19 Inspector Walker Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No <input type="radio"/> | 1" _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature



Date

7/29/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7-26-19 Inspector Walker Building Number 827A

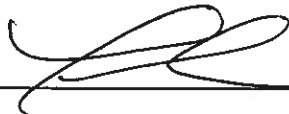
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes/No | 6" _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| <p>_____</p> | | |

Supervisor's Signature



Date

7/29/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7-26-19 Inspector Walker Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No | <u>6"</u> _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature



Date

7/29/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/26/19 Inspector Walker Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|---------------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |
| Supervisor's Signature <u>[Signature]</u> | Date <u>8/26/19</u> | |

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/26/19 Inspector Walker Building Number 817A

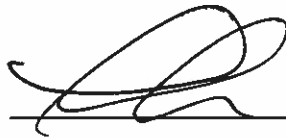
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|------------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/No <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature



Date

8/26/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/26/19 Inspector Walker Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature



Date

8/26/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/23/19 Inspector W. L. L. or Building Number 827A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|--|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> | <u>6"</u> _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No <input checked="" type="radio"/> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature  Date 8/26/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/26/19 Inspector Walker Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <u>No</u> | <u>7"</u> |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature [Signature] Date 8/26/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date Sept 27th, 2019 Inspector Mike Gutierrez Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/No | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ | | |
| _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date Sept 27th, 2019 Inspector Mike Gutierrez Building Number 817

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ |
| | | _____ |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9-30-19 Inspector Mike Gutierrez Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments</u> |
|---|---|---------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris)? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ |
| | | _____ |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date Sept 27th, 2009 Inspector Mike Gutierrez Building Number 827

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | <u>Yes</u> No | <u>6"</u> |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9-30-19 Inspector Mike Gutierrez Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No | <u>6'</u> |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-25-19 Inspector M. Gutierrez Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ |
| | | _____ |
| | | _____ |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-25-19 Inspector M. Gutierrez Building Number 817

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ |
| | | _____ |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-25-19 Inspector M. Gutierrez Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments</u> |
|---|-----------------|---------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ |
| | | _____ |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-25-19 Inspector M. Gutierrez Building Number 827

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | <u>Yes</u> /No | <u>6"</u> |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris)? | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10-25-19 Inspector M. Gutierrez Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | <u>Yes</u> /No | <u>7"</u> _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-27-19 Inspector M. Gutierrez Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments</u> |
|---|-----------------|---------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ |
| | | _____ |
| | | _____ |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-27-19 Inspector M. Gutierrez Building Number 817

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ |
| | | _____ |
| | | _____ |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-27-19 Inspector M. Gutierrez Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris)? | Yes/ <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ | | |
| _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-27-19 Inspector M. Gutierrez Building Number 827

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | <u>Yes</u> /No | <u>6"</u> |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris)? | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11-27-19 Inspector M. Gutierrez Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | <u>Yes</u> /No | <u>7'</u> |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-19-19 Inspector M. Gutierrez Building Number 801

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-19-19 Inspector M. Gutierrez Building Number 817

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris)? | Yes <input checked="" type="radio"/> No | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ | | |
| _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-19-19 Inspector M. Gutierrez Building Number 826

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris)? | Yes/ <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ | | |
| _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-19-19 Inspector M. Gutierrez Building Number 827

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|------------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/No <u>No</u> | <u>6"</u> |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris)? | Yes/No <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Cooling Tower Percolation Pit Inspection Checklist*
For Buildings 801, 817A, 826, 827A, and 851
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12-19-19 Inspector Mike Gutierrez Building Number 851

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, EFA, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | <u>Yes</u> /No | <u>6"</u> _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris)? | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature _____ Date _____

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Appendix C

Mechanical Room Network

Mechanical Equipment Discharge Effluent Monitoring for Buildings 806A, 827A,
827C, and 827E
Mechanical Equipment Room Percolation Pit
Inspection Forms

LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019

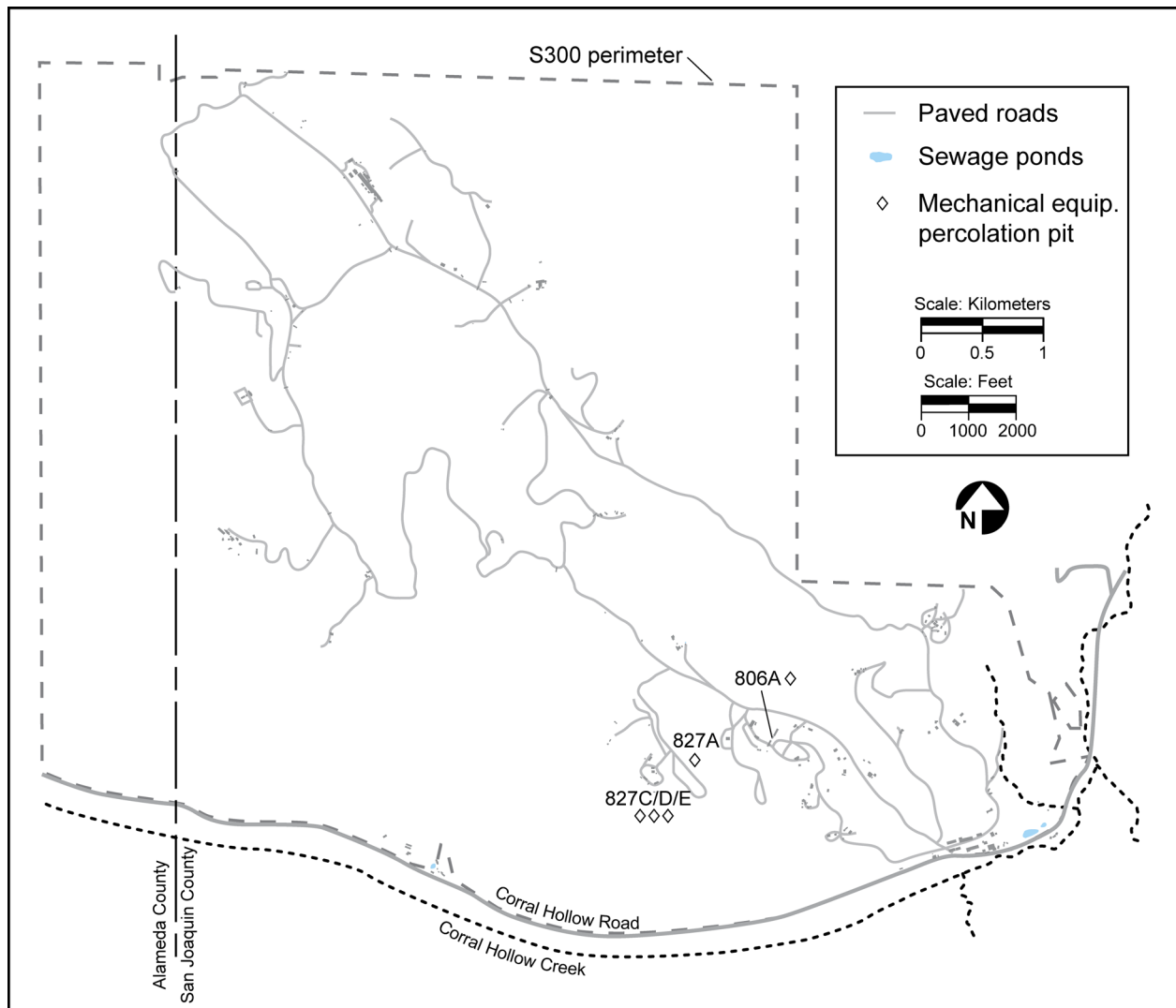


Figure C-1. Location of mechanical equipment wastewater percolation pits.

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table C-1. Site 300 mechanical equipment discharge effluent monitoring 2019 anions data summary.

| Well | Date | Sodium mg/L | Chloride mg/L | Nitrate (as NO₃) mg/L | Sulfate mg/L | Fluoride mg/L |
|-------------|-------------|------------------------|--------------------------|---|-------------------------|--------------------------|
| 3-B806A-OW | May 15 | 210 | 89 | <0.5 | 170 | 0.22 |
| | Oct 1 | 250 | 92 | <0.5 | 180 | 0.20 |
| | Oct 1 DUP | 240 | 92 | <0.5 | 180 | 0.20 |
| 3-B827A-OW | May 7 | 280 | 120 | <0.5 | 220 | 0.20 |
| | May 7 DUP | 270 | 120 | <0.5 | 220 | 0.21 |
| | Oct 1 | 1800 | 710 | 3.5 | 1300 | 1.8 |
| 3-B827C-OW | May 29 | 220 | 87 | <0.5 | 160 | 0.17 |
| | Oct 2 | 240 | 95 | <0.5 | 170 | 0.19 |
| 3-B827E-OW | May 7 | 230 | 88 | <0.5 | 170 | 0.17 |
| | Oct 2 | 240 | 91 | <0.5 | 170 | 0.20 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table C–2. Site 300 mechanical equipment discharge effluent monitoring 2019 metals data summary.

| Analyte (µg/L) | Date | 3-B806A-OW | 3-B806A-OW DUP | 3-B827A-OW | 3-B827A-OW DUP | 3-B827C-OW | 3-B827E-OW |
|----------------|--------|------------|-------------------|------------|-------------------|------------|------------|
| Aluminum | May 7 | - | - | <50 | <50 | - | <50 |
| | May 15 | <50 | - | - | - | - | - |
| | May 29 | - | - | - | - | <50 | - |
| | Oct 1 | <50 | <50 | <250 | - | - | - |
| | Oct 2 | - | - | - | - | <50 | <50 |
| Arsenic | May 7 | - | - | <2 | <2 | - | <2 |
| | May 15 | <2 | - | - | - | - | - |
| | May 29 | - | - | - | - | <2 | - |
| | Oct 1 | <2 | <2 | 8.0 | - | - | - |
| | Oct 2 | - | - | - | - | <2 | <2 |
| Barium | May 7 | - | - | <25 | <25 | - | <25 |
| | May 15 | <25 | - | - | - | - | - |
| | May 29 | - | - | - | - | <25 | - |
| | Oct 1 | <25 | <25 | 170 | - | - | - |
| | Oct 2 | - | - | - | - | <25 | <25 |
| Boron | May 7 | - | - | 1100 | 1100 | - | 880 |
| | May 15 | 820 | - | - | - | - | - |
| | May 29 | - | - | - | - | 900 | - |
| | Oct 1 | 880 | 920 | 6100 | - | - | - |
| | Oct 2 | - | - | - | - | 910 | 920 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table C–2. Site 300 mechanical equipment discharge effluent monitoring 2019 metals data summary continued.

| Analyte (µg/L) | Date | 3-B806A-OW | 3-B806A-OW DUP | 3-B827A-OW | 3-B827A-OW DUP | 3-B827C-OW | 3-B827E-OW |
|----------------|--------|------------|-------------------|------------|-------------------|------------|------------|
| Cadmium | May 7 | - | - | <50 | <50 | - | <50 |
| | May 15 | <50 | - | - | - | - | - |
| | May 29 | - | - | - | - | <50 | - |
| | Oct 1 | <50 | <50 | <100 | - | - | - |
| | Oct 2 | - | - | - | - | <50 | <50 |
| Calcium | May 7 | - | - | 12000 | 12000 | - | 9900 |
| | May 15 | 7900 | - | - | - | - | - |
| | May 29 | - | - | - | - | 10000 | - |
| | Oct 1 | 8500 | 8500 | 62000 | - | - | - |
| | Oct 2 | - | - | - | - | 11000 | 10000 |
| Chromium | May 7 | - | - | <1 | <1 | - | <1 |
| | May 15 | <1 | - | - | - | - | - |
| | May 29 | - | - | - | - | <1 | - |
| | Oct 1 | <1 | <1 | <2 | - | - | - |
| | Oct 2 | - | - | - | - | <1 | <1 |
| Chromium (VI) | May 7 | - | - | <1 | <1 | - | <1 |
| | May 15 | <1 | - | - | - | - | - |
| | May 29 | - | - | - | - | <1 | - |
| | Oct 1 | 2.0 | <2 | 31 | - | - | - |
| | Oct 2 | - | - | - | - | <2 | <2 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table C–2. Site 300 mechanical equipment discharge effluent monitoring 2019 metals data summary continued.

| Analyte (µg/L) | Date | 3-B806A-OW | 3-B806A-OW DUP | 3-B827A-OW | 3-B827A-OW DUP | 3-B827C-OW | 3-B827E-OW |
|----------------|--------|------------|-------------------|------------|-------------------|------------|------------|
| Copper | May 7 | - | - | 4.1 | 4.0 | - | 37 |
| | May 15 | 12 | - | - | - | - | - |
| | May 29 | - | - | - | - | 150 | - |
| | Oct 1 | 17 | 17 | 57 | - | - | - |
| | Oct 2 | - | - | - | - | 19 | 8.1 |
| Iron | May 7 | - | - | 120 | 120 | - | 290 |
| | May 15 | <100 | - | - | - | - | - |
| | May 29 | - | - | - | - | 1300 | - |
| | Oct 1 | <100 | <100 | <500 | - | - | - |
| | Oct 2 | - | - | - | - | 160 | <100 |
| Lead | May 7 | - | - | <5 | <5 | - | <5 |
| | May 15 | <5 | - | - | - | - | - |
| | May 29 | - | - | - | - | <5 | - |
| | Oct 1 | <5 | <5 | <10 | - | - | - |
| | Oct 2 | - | - | - | - | <5 | <5 |
| Magnesium | May 7 | - | - | <500 | <500 | - | <500 |
| | May 15 | <500 | - | - | - | - | - |
| | May 29 | - | - | - | - | <500 | - |
| | Oct 1 | <500 | <500 | <2500 | - | - | - |
| | Oct 2 | - | - | - | - | <500 | <500 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table C–2. Site 300 mechanical equipment discharge effluent monitoring 2019 metals data summary continued.

| Analyte (µg/L) | Date | 3-B806A-OW | 3-B806A-OW DUP | 3-B827A-OW | 3-B827A-OW DUP | 3-B827C-OW | 3-B827E-OW |
|----------------|--------|------------|-------------------|------------|-------------------|------------|------------|
| Manganese | May 7 | - | - | <30 | <30 | - | <30 |
| | May 15 | <30 | - | - | - | - | - |
| | May 29 | - | - | - | - | <30 | - |
| | Oct 1 | <30 | <30 | <150 | - | - | - |
| | Oct 2 | - | - | - | - | <30 | <30 |
| Mercury | May 7 | - | - | <0.2 | <0.2 | - | <0.2 |
| | May 15 | <0.2 | - | - | - | - | - |
| | May 29 | - | - | - | - | <0.2 | - |
| | Oct 1 | <0.2 | <0.2 | <0.2 | - | - | - |
| | Oct 2 | - | - | - | - | <0.2 | <0.2 |
| Molybdenum | May 7 | - | - | <25 | <25 | - | <25 |
| | May 15 | <25 | - | - | - | - | - |
| | May 29 | - | - | - | - | <25 | - |
| | Oct 1 | <25 | <25 | <120 | - | - | - |
| | Oct 2 | - | - | - | - | <25 | <25 |
| Nickel | May 7 | - | - | <2 | <2 | - | <2 |
| | May 15 | <2 | - | - | - | - | - |
| | May 29 | - | - | - | - | <2 | - |
| | Oct 1 | <2 | <2 | 4.5 | - | - | - |
| | Oct 2 | - | - | - | - | <2 | <2 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table C–2. Site 300 mechanical equipment discharge effluent monitoring 2019 metals data summary continued.

| Analyte (µg/L) | Date | 3-B806A-OW | 3-B806A-OW DUP | 3-B827A-OW | 3-B827A-OW DUP | 3-B827C-OW | 3-B827E-OW |
|----------------|--------|------------|-------------------|------------|-------------------|------------|------------|
| Potassium | May 7 | - | - | 15000 | 12000 | - | 8500 |
| | May 15 | 8800 | - | - | - | - | - |
| | May 29 | - | - | - | - | 8700 | - |
| | Oct 1 | 8600 | 8700 | 77000 | - | - | - |
| | Oct 2 | - | - | - | - | 8600 | 8400 |
| Selenium | May 7 | - | - | <2 | <2 | - | <2 |
| | May 15 | <2 | - | - | - | - | - |
| | May 29 | - | - | - | - | <2 | - |
| | Oct 1 | <2 | <2 | 130 | - | - | - |
| | Oct 2 | - | - | - | - | <2 | <2 |
| Silver | May 7 | - | - | <10 | <10 | - | <10 |
| | May 15 | <10 | - | - | - | - | - |
| | May 29 | - | - | - | - | <10 | - |
| | Oct 1 | <10 | <10 | <20 | - | - | - |
| | Oct 2 | - | - | - | - | <10 | <10 |
| Vanadium | May 7 | - | - | <20 | <20 | - | <20 |
| | May 15 | <20 | - | - | - | - | - |
| | May 29 | - | - | - | - | <20 | - |
| | Oct 1 | <20 | <20 | <40 | - | - | - |
| | Oct 2 | - | - | - | - | <20 | <20 |

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table C–2. Site 300 mechanical equipment discharge effluent monitoring 2019 metals data summary continued.

| Analyte (µg/L) | Date | 3-B806A-OW | 3-B806A-OW DUP | 3-B827A-OW | 3-B827A-OW DUP | 3-B827C-OW | 3-B827E-OW |
|----------------|--------|------------|-------------------|------------|-------------------|------------|------------|
| Zinc | May 7 | - | - | 26 | 28 | - | 22 |
| | May 15 | <20 | - | - | - | - | - |
| | May 29 | - | - | - | - | 29 | - |
| | Oct 1 | <20 | <20 | 120 | - | - | - |
| | Oct 2 | - | - | - | - | <20 | <20 |

Note:

– = Sampling not required, sampling was performed for that analyte on a different date.

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Table C-3. Site 300 mechanical equipment discharge effluent monitoring 2019 physical data.

| Well | Date | pH | Specific Conductance µmhos/cm | Total Alkalinity (as CaCO₃) mg/L | Total dissolved solids (TDS) mg/L | Total Hardness (as CaCO₃) mg/L | Total Phosphorus (as PO₄) mg/L |
|-------------|--------------|-----------|--|--|--|--|--|
| 3-B806A-OW | May 15 | 8.9 | 1070 | 230 | 700 | 20 | <1 |
| 3-B806A-OW | Oct 1 | 8.7 | 1050 | 220 | 700 | 22 | <1 |
| 3-B806A-OW | Oct 1 DUP | 8.6 | 1050 | 220 | 740 | 22 | <1 |
| 3-B827A-OW | May 7 | 8.9 | 1330 | 280 | 980 | 31 | 2.2 |
| 3-B827A-OW | May 7 DUP | 8.8 | 1330 | 280 | 990 | 30 | 2.2 |
| 3-B827A-OW | Oct 1 | 9.3 | 7190 | 1600 | 5600 | 160 | 28 |
| 3-B827C-OW | May 29 | 8.9 | 1080 | 230 | 760 | 26 | <1 |
| 3-B827C-OW | Oct 2 | 8.9 | 1100 | 220 | 710 | 27 | <1 |
| 3-B827E-OW | May 7 | 8.6 | 1060 | 220 | 760 | 25 | <1 |
| 3-B827E-OW | Oct 2 | 8.6 | 1080 | 240 | 720 | 26 | <1 |

FIELD TRACKING FORM

Semi-Annual Site 300 Mechanical Equipment Room/Percolation Pit Discharge

Special Instructions: Should be sampled in early April and October.
 See back of form for additional access information
 ** For 3-B827A-OW Contact FPOC; Off-road travel
 Location name change info: 3-B827A-OW previously 3-CT-PERC-OW
 3-B806A-OW previously 3-806B-OW

| LAB | CoC# | Ship It # |
|---------|-------|-----------|
| BC Labs | 80935 | 249602 |

pH meter calibrated on: 10/1/19
 Specific Conductance meter calibrated on: 10/1/19

Sample Date: 10/1/19

| Location Identifier | Sample Time | Initials | Field Meas | | BC Labs | | | Comments |
|--------------------------------|-------------|------------|------------|----------------------|---------------------|-------------------------|-----------------------|--|
| | | | pH | Specific Conductance | S3METALS 500mL Poly | S3ANIONS 1 x 500mL Poly | S3WETCHEM 1000mL Poly | |
| 3-B827A-OW** | 1430 | KB, TG, RC | 9.25 | 735ms | ✓ | ✓ | ✓ | 806A Started at 0735 75, 130 ml Samples collected over 4 1/2 hour time frame ≈ 4.5 Liters collected, one sample collected every 5 min. |
| 3-B827C-OW | | | | | | | | |
| 3-B827D-OW | | | | | | | | 827A Started at 0830 73, 130 ml Samples collected over a 6 hour time frame ≈ 3 Liters collected, one sample collected every 5 min. * Sample collection container fell over |
| 3-B827E-OW | | | | | | | | |
| 3-B806A-OW | 1405 | KB, TG, RC | 8.43 | 932 | ✓ | ✓ | ✓ | |
| | | | | ms | | | | |
| Duplicate of 3-827A-OW 2nd Qtr | | | | | | | | |
| Duplicate of 3-806A-OW 4th Qtr | | | | | | | | |
| 3-B9900-OW | 1405 | KB, TG, RC | 8.43 | 932.45 | ✓ | ✓ | ✓ | |

☒ Copy to Analyst, Ada Chan.

Revised 2/2/17

FIELD TRACKING FORM

Semi-Annual Site 300 Mechanical Equipment Room/Percolation Pit Discharge

Special Instructions: Should be sampled in early April and October.
See back of form for additional access information
** For 3-B827A-OW Contact FPOC; Off-road travel
Location name change info: 3-B827A-OW previously 3-CT-PERC-OW
3-B806A-OW previously 3-806B-OW

| LAB | CoC# | Ship It # |
|---------|-------|-----------|
| BC Labs | 80941 | 249685 |

pH meter calibrated on: 10/2/19
Specific Conductance meter calibrated on: 10/2/19

Sample Date: 10/2/19

| Location Identifier | Sample Time | Initials | Field Meas | | BC Labs | | | Comments |
|------------------------|-------------|----------|------------|----------------------|---------------------|-------------------------|-----------------------|--|
| | | | pH | Specific Conductance | S3METALS 500mL Poly | S3ANIONS 1 x 500mL Poly | S3WETCHEM 1000mL Poly | |
| 3-B827A-OW** | | | | | | | | 827E STARTED AT 07:50 AM 75,130 ml Samples collected over a 6 hour time frame One sample every 5 min. ~ 8 Liters collected. |
| 3-B827C-OW | 1410 | TG | 8.78 | 976 μ S | ✓ | ✓ | ✓ | |
| 3-B827D-OW | | | | | | | | 827C Started AT 08:10 AM 75,130 mL Samples collected over a 6 hour time frame One sample every 5 minutes. ~ 7.5 Liters collected |
| 3-B827E-OW | 1400 | TG | 8.62 | 984 μ S | ✓ | ✓ | ✓ | |
| 3-B806A-OW | | | | | | | | |
| Duplicate of 3-827A-OW | 2nd Qtr | | | | | | | |
| Duplicate of 3-806A-OW | 4th Qtr | | | | | | | |
| 3-B9900-OW | | | | | | | | |

☒ Copy to Analyst, Ada Chan.

Revised 2/2/17

Chain of Custody

**EFA Data Management Team
Lawrence Livermore National Laboratory
P.O. Box 808 L-627
Livermore, CA 94551**

Work Authorized By: EFA
TRR Approver: DELLA BURRUSS
Project Info:



Access/COC #: 80935
Document Control #: 80935
Requester/LLNL Analyst: A. Chan
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 44497
PCI Task #: ES&H Bills and Taxes
Email: efa-dmt@llnl.gov

DMT Additional Copies: _____

Analytical Lab : BCLABS-BAK
TAT: 20d
lytical Lab Log #: _____
Project/Network: MECHEQUIPMNTRMS
Shipt Release #: 249602
Add'l Email: _____

Additional Instructions:

[illegible]

| Relinquished Signature | | Company | Date | Time | Received Signature | | Company | Date | Time |
|------------------------|---|----------|-----------|------|--------------------|---|---------|---------|------|
| 1 |  | LLNL/EFA | 10/1/2019 | 1530 | 2 |  | Bc Lab | 10-1-19 | 1630 |
| 2 | | | | | 3 | | | | |
| 3 | | | | | 4 | | | | |
| 4 | | | | | 5 | | | | |

Chain of Custody

EFA Data Management Team
Lawrence Livermore National Laboratory
P.O. Box 808 L-627
Livermore, CA 94551



Work Authorized By: EFA
TRR Approver: DELLA BURRUSS
Project Info:

Access/COC #: 80941
Document Control #: 80941
Requester/LLNL Analyst: A. Chan
Organization / Sampler: EFA / brunckhorst2
PCI Project #: 44497
PCI Task #: ES&H Bills and Taxes
Email: efa-dmt@llnl.gov
DMT Additional Copies:

Analytical Lab : BCLABS-BAK
TAT: 20d
Analytical Lab Log #: _____
Project/Network: MECHEQUIPMNTRMS
Shiplt Release #: 249685
Add'l Email: _____

Additional Instructions:

[illegible]

| Relinquished Signature | | Company | Date | Time | Received Signature | | Company | Date | Time |
|------------------------|---|----------|-----------|------|--------------------|---|---------|---------|------|
| 1 |  | LLNL/EFA | 10/2/2019 | 1510 | 2 |  | BCLAB | 10-2-19 | 1630 |
| 2 | | | | | 3 | | | | |
| 3 | | | | | 4 | | | | |
| 4 | | | | | 5 | | | | |

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7/11/19 Inspector JASON WITTEN Building Number 827A

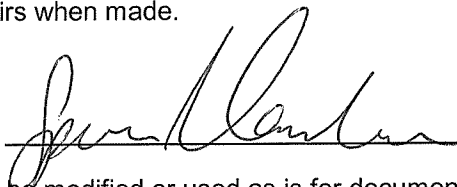
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ _____ _____ |

Supervisor's Signature



Date

7.11.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

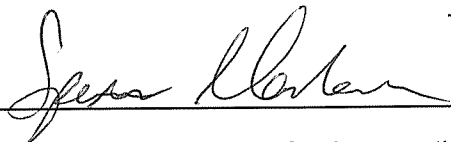
Date 7/11/19 Inspector Jason Wittig Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature  Date 7.11.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1


Date 7/11/19 Inspector Jason Withis Building Number 827D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 7-11-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7/11/19 Inspector Jason Withg Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature  Date 7.11.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 6-24-2019 Inspector MARK KRAUTHS Building Number 806A

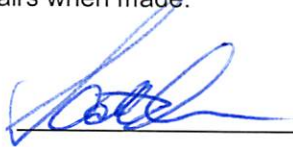
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|------------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/No <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature



Date

6-27-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/7/19 Inspector JASON WITTIG Building Number 827A

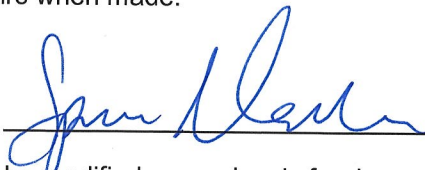
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|--------------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No <u>(No)</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No <u>(No)</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/No <u>(No)</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No <u>(No)</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature



Date

8-7-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/7/19 Inspector JASON WITTIG Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|---|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | <u>Yes</u> /No | <u>couple inches, ~ 2 ft diameter around pipe</u> |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | <u>~ 2"; will monitor weekly</u> |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | _____ _____ _____ |

Supervisor's Signature  Date 8-7-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/7/19 Inspector JASON WITTIG Building Number 827 D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 8-7-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 8/7/19 Inspector JASON WITTIK Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ |
| | | _____ |

Supervisor's Signature  Date 8-7-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

August

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 7/24/2019 Inspector Mark Kraus Building Number 806A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature [Signature] Date 7/29/18

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1


Date 9/4/19 Inspector D. Soto Building Number 827A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 9.9.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9/4/19 Inspector TJ Soto Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|---|---|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No <input type="radio"/> | <u>~ 1ft deep / ~ 5ft diameter</u> <u>worse than last week</u> |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 9-9-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1


Date 9/4/19 Inspector TJ Soto Building Number 827D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature  Date 9-9-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9/4/19 Inspector TJ Soto Building Number 827 E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 9-9-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9/26/2019 Inspector MARK KRAWIS Building Number 806A

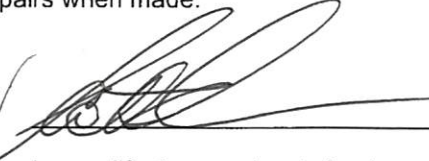
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/No | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature



Date

9/27/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1


Date 10/3/19 Inspector TJ Solo Building Number 827A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ |
| | | _____ |

Supervisor's Signature  Date 10-7-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10/3/19 Inspector TJ Soto Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | <u>Yes</u> /No | <u>~ 6 in of water</u> |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 10-7-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10/3/19 Inspector TJ Soto Building Number 827 D

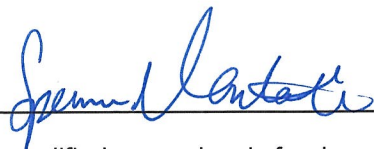
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | _____ |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | _____ |
| | | _____ |
| | | _____ |

Supervisor's Signature



Date

10-7-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10/3/11 Inspector TJ Soto Building Number 827E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 10-7-11

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Oct.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 9/30/2019 Inspector MARK KRAHNS Building Number 806A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| Check Items | Response | Description and Comments: |
|---|----------------|---------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature



Date

10/9/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11/6/19 Inspector TJ Soto Building Number 827A

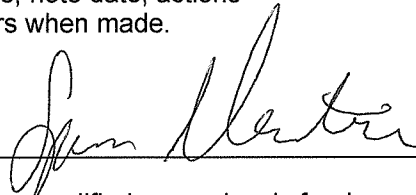
Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ _____ _____ |

Supervisor's Signature



Date

11.6.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11/6/19 Inspector TS Sat Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |

If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.

| | | |
|--|----------------|---------------------------------------|
| 3. Is there standing water in the Christy box? | <u>Yes</u> /No | <u>~ 6 in of water / 2ft diameter</u> |
|--|----------------|---------------------------------------|

If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted

Inspections are weekly

| | | |
|--|----------------|-------------------------|
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
|--|----------------|-------------------------|

If yes to any of the above, note date, actions taken, and type of repairs when made.

Supervisor's Signature  Date 11-6-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 11/6/19 Inspector TJ Solo Building Number 827 D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ |
| | | _____ |

Supervisor's Signature  Date 11.6.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

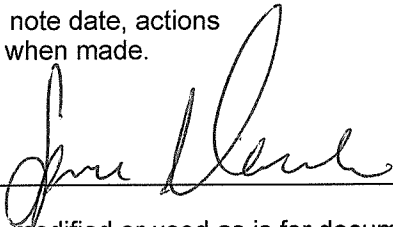
Date 11/6/19 Inspector TJ Soto Building Number 827 E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature  Date 11.6.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

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Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 10/31/2019 Inspector MARK KRAWK Building Number 806A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|------------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/No <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ _____ _____ |

Supervisor's Signature [Signature] Date 11/6/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

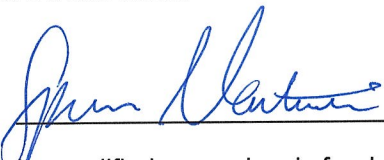
Date 12/4/19 Inspector TJ Soto Building Number 827 A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 12.17.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12/4/19 Inspector TJ Soto Building Number 827C

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ |


If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.

| | | |
|--|---|--|
| 3. Is there standing water in the Christy box? | Yes <input checked="" type="radio"/> No <input type="radio"/> | <u>~ 1ft from recent rain, will monitor weekly</u> |
|--|---|--|

If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted

| | | |
|--|---|-------------------------|
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input checked="" type="radio"/> No <input type="radio"/> | _____ _____ _____ |
|--|---|-------------------------|

If yes to any of the above, note date, actions taken, and type of repairs when made.

Supervisor's Signature  Date 12-17-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12/4/19 Inspector TJ Soto Building Number 827D

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|---|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes <input type="radio"/> No <input checked="" type="radio"/> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes <input type="radio"/> No <input checked="" type="radio"/> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes <input type="radio"/> No <input checked="" type="radio"/> | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes <input type="radio"/> No <input checked="" type="radio"/> | _____ _____ _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ _____ _____ |

Supervisor's Signature  Date 12-17-19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1


Date 12/4/19 Inspector TJ Soto Building Number 827 E

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|---|-----------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/ <u>No</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/ <u>No</u> | _____ |
| If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection. | | |
| 3. Is there standing water in the Christy box? | Yes/ <u>No</u> | _____ |
| If yes is indicated in 3, note depth and increase inspection frequency to weekly until no water is noted | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/ <u>No</u> | _____ _____ _____ |
| If yes to any of the above, note date, actions taken, and type of repairs when made. | | |
| _____ _____ _____ | | |

Supervisor's Signature  Date 12.17.19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency to weekly until no standing water is observed.

Monthly/Weekly Mechanical Equipment Percolation Pit Inspection Checklist*
For Buildings 827A, 827C, 827D, 827E, and 806A
Waste Discharge Requirements Order Number R5-2008-0148
Monitoring and Reporting Program Order No. R5-2008-0148, Revision 1

Date 12/3/2019 Inspector MARK KRAHNS Building Number 806A

Instructions: Circle the appropriate response for each item below, and record the date and time. Provide descriptions and comments if necessary. Attach additional paper if extra space is needed.

This record is to be maintained by the Inspecting Organization for a minimum of 5 years and made available by request of EPD or regulatory personnel.

Send a completed copy to the attention of Ada Chan, Environmental Functional Area, (L-627)

| <u>Check Items</u> | <u>Response</u> | <u>Description and Comments:</u> |
|--|--------------------|----------------------------------|
| 1. Is water flowing from the Christy box? | Yes/No <u>(No)</u> | _____ |
| 2. Are there any signs of recent overflow (damp dirt around Christy box)? | Yes/No <u>(No)</u> | _____ |
| <p>If yes is indicated to either 1 or 2, contact the ES&H Team EA or off hours contact the EDO (pager 04097 or 27595) immediately to arrange for reporting to the regulatory agency and sample collection.</p> | | |
| 3. Is there standing water in the Christy box? | Yes/No <u>(No)</u> | _____ |
| <p>If yes is indicated in 3, note depth and increase inspection frequency as needed until no water is noted</p> | | |
| 4. Are there any other indications that the percolation pit requires maintenance (e.g., excessive build up scale, accumulation of dirt or debris). | Yes/No <u>(No)</u> | _____ |
| <p>If yes to any of the above, note date, actions taken, and type of repairs when made.</p> | | |
| | | _____ |
| | | _____ |

Supervisor's Signature  Date 12/5/19

* Note: This form may be modified or used as is for documenting the routine inspections of the percolation pits permitted under Monitoring and Reporting Program Order Number R5-2008-0148, Revision 1. If standing water is observed in the monthly inspection, increase inspection frequency as needed until no standing water is observed.

*LLNL Site 300 Compliance Monitoring Report for WDR Order No. R5-2008-0148
Second Semester/Annual Report 2019*

Appendix D

California Regional Water Quality Control Board Central Valley Region
Monitoring and Reporting - LLNL

ATTACHMENT 16

Evaluation of cooling tower and mechanical equipment discharges threat to groundwater quality using the designated level methodology (DLM); comparison of maximum value detected in samples with the DLM values for disposal units (percolation pits or septic systems) using attenuation factor of 100 for systems more than 30 feet above ground water.

| Parameter | Units | Maximum value detected in effluent | Designated level methodology value | Corresponding water quality goal ^a | Source of water quality goal ^a |
|--|-------|------------------------------------|------------------------------------|---|---|
| Aluminum | mg/L | 0.25 | 100 | 1 | CA primary MCL ^b |
| Bicarbonate alkalinity (as CaCO ₃) | mg/L | 220 | None | None | None |
| Boron | mg/L | 2.2 | 140 | 1.4 | IRIS ^c |
| Calcium | mg/L | 22 | None | None | None |
| Carbonate alkalinity (as CaCO ₃) | mg/L | 800 | None | None | None |
| Chloride | mg/L | 210 | Not applicable | 250 | CA secondary MCL |
| Chromium (total) | mg/L | 0.0072 | 5 | 0.05 | CA primary MCL |
| Chromium (hexavalent) | mg/L | 0.0067 | 2.1 | 0.021 | IRIS |
| Copper | mg/L | 2.4 | 130 | 1.3 | CA primary MCL |
| Fluoride | mg/L | 1.1 | 200 | 2 | CA primary MCL |
| Hydroxide alkalinity (as CaCO ₃) | mg/L | 120 | None | None | None |
| Iron | mg/L | 2.3 | 30 | 0.3 | CA secondary MCL |
| Lead | mg/L | 0.0077 | 1.5 | 0.015 | CA primary MCL |
| Magnesium | mg/L | 1.4 | None | None | None |
| Manganese | mg/L | 0.2 | 5 | 0.05 | CA secondary MCL |
| Molybdenum | mg/L | 0.045 | 3.5 | 0.035 | IRIS |

continued

ATTACHMENT 16 - CONTINUED

Evaluation of cooling tower and mechanical equipment discharges on ground water quality using the designated level methodology (DLM); comparison of maximum value detected in samples with the DLM values for disposal units (percolation pits or septic systems) using attenuation factor of 100 for systems more than 30 feet above ground water.

| Parameter | Units | Maximum value detected in effluent | Designated level methodology value | Corresponding water quality goal ^a | Source of water quality goal ^a |
|--|----------|------------------------------------|------------------------------------|---|---|
| Nickel | mg/L | 0.019 | 10 | 0.1 | CA primary MCL |
| Nitrate (as N) | mg/L | 0.4 | Not applicable | 10 | CA primary MCL |
| Nitrate (as NO ₃) | mg/L | 1.8 | Not applicable | 45 | CA primary MCL |
| Nitrate plus Nitrite (as N) | mg/L | 0.17 | Not applicable | 10 | CA primary MCL |
| Ortho-phosphate | mg/L | 180 | None | None | None |
| Potassium | mg/L | 280 | None | None | None |
| Selenium | mg/L | 0.0036 | 5 | 0.05 | CA primary MCL |
| Sodium | mg/L | 740 | Not applicable | 30-60 | Taste & odor |
| Specific conductance | µmhos/cm | 4,340 | Not applicable | 900 | CA secondary MCL |
| Sulfate | mg/L | 885 | Not applicable | 250 | CA secondary MCL |
| Total alkalinity (as CaCO ₃) | mg/L | 920 | None | None | None |
| Total dissolved solids | mg/L | 3,300 | Not applicable | 500 | CA secondary MCL |
| Total hardness (as CaCO ₃) | mg/L | 58 | None | None | None |
| Total phosphorus (as P) | mg/L | 54 | None | None | None |
| Total trihalomethanes | mg/L | 0.011 | Not applicable | 0.08 | CA primary MCL |
| Vanadium | mg/L | 0.1 | 6.3 | 0.063 | IRIS |
| Zinc | mg/L | 0.34 | 500 | 5 | CA secondary MCL |

^a From *A Compilation of Water Quality Goals* (Marshack August 2007).

^b MCL – Maximum contaminant level.

^c IRIS – USEPA Integrated Risk Information System reference dose for drinking water.



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